



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 17, 2018 – 02:24 pm GMT

PDB ID : 1NWX  
Title : COMPLEX OF THE LARGE RIBOSOMAL SUBUNIT FROM DEINOCOCCUS RADIODURANS WITH ABT-773  
Authors : Schluenzen, F.; Harms, J.; Franceschi, F.; Hansen, H.A.S.; Bartels, H.; Zariwach, R.; Yonath, A.  
Deposited on : 2003-02-07  
Resolution : 3.50 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.7.3 (157068), CSD as539be (2018)  
Xtrriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk30686

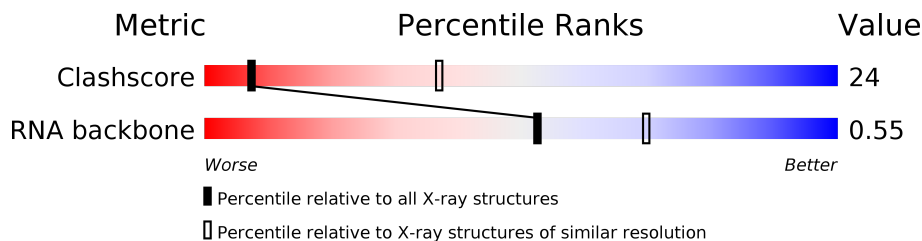
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	122078	1485 (3.60-3.40)
RNA backbone	2633	1052 (4.10-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	
2	9	124	
3	A	274	
4	B	211	
5	C	204	
6	D	180	
7	E	185	
8	F	146	

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Mol	Chain	Length	Quality of chain
9	G	144	99%
10	H	174	82% 18%
11	I	134	99%
12	J	156	90% 10%
13	K	141	87% 12%
14	L	116	97%
15	M	113	97%
16	N	166	75% 25%
17	O	118	99%
18	P	100	100%
19	Q	134	97%
20	R	94	99%
21	S	115	98%
22	T	237	94% 6%
23	U	91	95% 5%
24	W	67	97%
25	X	55	100%
26	Y	73	100%
27	Z	59	97%
28	1	55	96%
29	2	47	98%
30	3	65	97%
31	4	37	95% 5%

## 2 Entry composition [i](#)

There are 32 unique types of molecules in this entry. The entry contains 65355 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2766	59359	26479	10949	19166	2765	0	0	0

- Molecule 2 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	118	2519	1124	464	813	118	0	0	0

- Molecule 3 is a protein called ribosomal protein L2.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
3	A	270	Total	C	0	0	270
			270	270			

- Molecule 4 is a protein called ribosomal protein L3.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
4	B	205	Total	C	0	0	205
			205	205			

- Molecule 5 is a protein called ribosomal protein L4.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
5	C	197	Total	C	0	0	197
			197	197			

- Molecule 6 is a protein called ribosomal protein L5.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
6	D	178	Total	C	0	0	178
			178	178			

- Molecule 7 is a protein called ribosomal protein L6.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
7	E	177	Total C 177 177	0	0	177

- Molecule 8 is a protein called ribosomal protein L9.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
8	F	52	Total C 52 52	0	0	52

- Molecule 9 is a protein called ribosomal protein L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
9	G	143	Total C 143 143	0	0	143

- Molecule 10 is a protein called ribosomal protein L13.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
10	H	143	Total C 143 143	0	0	143

- Molecule 11 is a protein called ribosomal protein L14.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
11	I	132	Total C 132 132	0	0	132

- Molecule 12 is a protein called ribosomal protein L15.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
12	J	141	Total C 141 141	0	0	141

- Molecule 13 is a protein called ribosomal protein L16.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
13	K	124	Total C 124 124	0	0	124

- Molecule 14 is a protein called ribosomal protein L17.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
14	L	114	Total C 114 114	0	0	114

- Molecule 15 is a protein called ribosomal protein L18.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
15	M	111	Total C 111 111	8	0	111

- Molecule 16 is a protein called ribosomal protein L19.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
16	N	125	Total C 125 125	0	0	125

- Molecule 17 is a protein called ribosomal protein L20.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
17	O	117	Total C 117 117	16	0	117

- Molecule 18 is a protein called ribosomal protein L21.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
18	P	100	Total C 100 100	0	0	100

- Molecule 19 is a protein called ribosomal protein L22.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
19	Q	130	Total C 130 130	0	0	130

- Molecule 20 is a protein called ribosomal protein L23.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
20	R	93	Total C 93 93	0	0	93

- Molecule 21 is a protein called ribosomal protein L24.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
21	S	113	Total C 113 113	0	0	113

- Molecule 22 is a protein called general stress protein Ctc.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
22	T	223	Total C 223 223	43	0	223

- Molecule 23 is a protein called ribosomal protein L27.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
23	U	86	Total C 86 86	0	0	86

- Molecule 24 is a protein called ribosomal protein L29.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
24	W	65	Total C 65 65	0	0	65

- Molecule 25 is a protein called ribosomal protein L30.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
25	X	55	Total C 55 55	4	0	55

- Molecule 26 is a protein called ribosomal protein L31.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
26	Y	73	Total C 73 73	0	0	73

- Molecule 27 is a protein called ribosomal protein L32.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
27	Z	58	Total C 58 58	0	0	58

- Molecule 28 is a protein called ribosomal protein L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	1	53	Total C 53 53	0	0	53

- Molecule 29 is a protein called ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	2	46	Total C 46 46	0	0	46

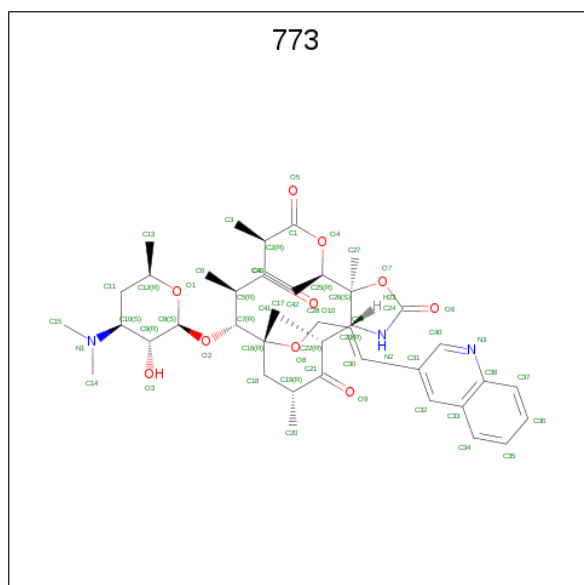
- Molecule 30 is a protein called ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	3	63	Total C 63 63	0	0	63

- Molecule 31 is a protein called ribosomal protein L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	4	35	Total C 35 35	0	0	35

- Molecule 32 is CETHROMYCIN (three-letter code: 773) (formula:  $C_{42}H_{59}N_3O_{10}$ ).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	0	1	Total C N O 55 42 3 10	0	0

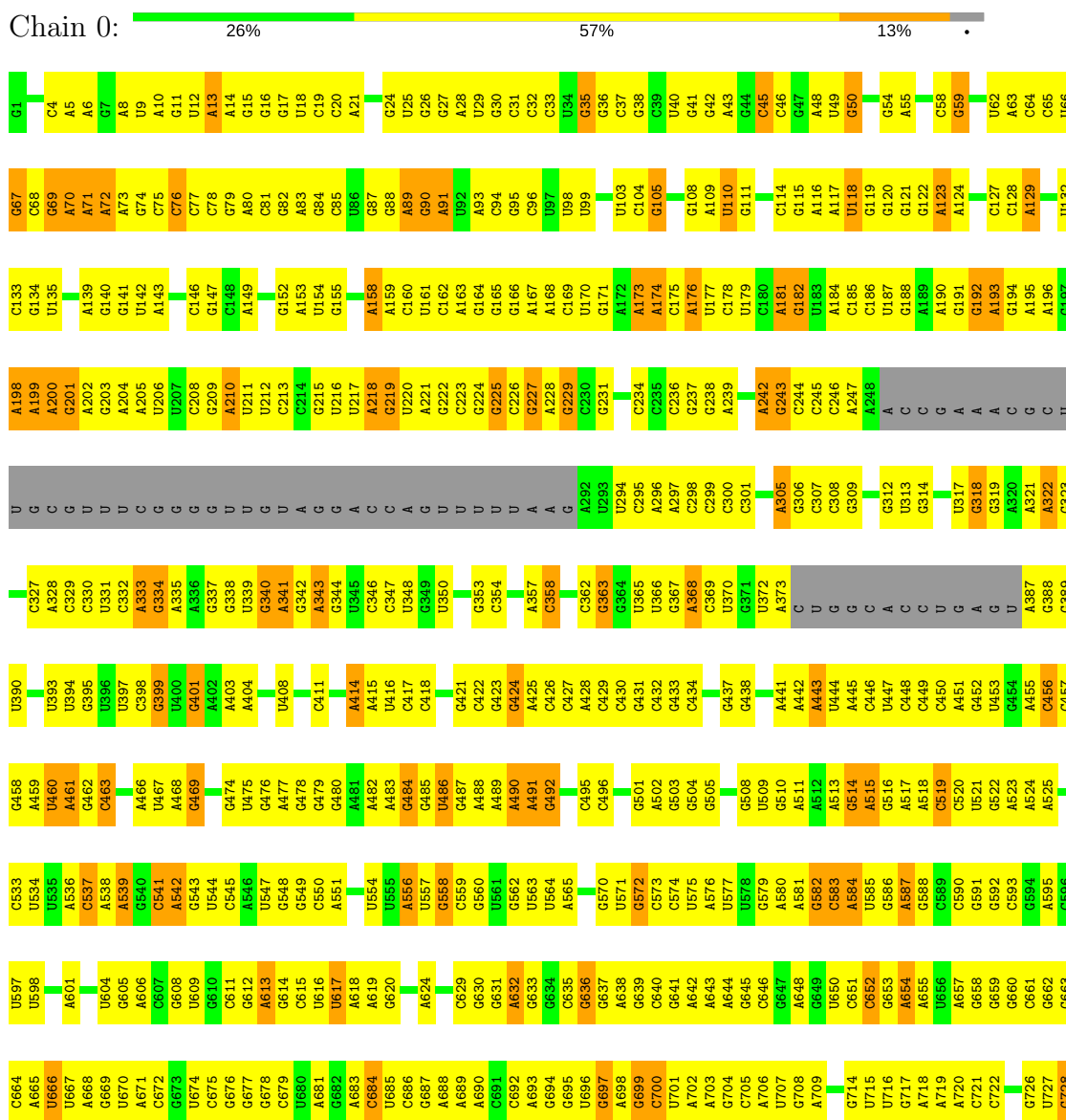


### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS was not executed.

#### • Molecule 1: 23S RIBOSOMAL RNA



G1760	G1691	C1621	C1588	G1488	U1426	U1367	G1296	C1230	G1155	G1082	C1002	G933	C864	A794	G732
G1692	C1622	G1622	G1589	C1489	G1427	C1358	A1297	A1233	U1156	G1083	C1003	A936	A865	A796	G733
G1693	A1623	G1623	A1560	U1490	G1428	G1359	A1299	A1234	A1162	C1086	U1005	C937	U866	A797	G734
C1694	A1624	G1624	A1491	A1429	G1430	C1363	U1300	C1235	C1163	C1087	C1006	G938	U867	G798	G735
C1695	A1625	G1625	A1483	U1431	G1431	C1364	A1301	A1238	C1164	C1088	A1007	C939	U868	G799	G736
C1696	A1626	G1626	A1483	U1431	G1432	U1365	C1302	A1238	G1165	C1089	G1008	C940	C869	C737	G737
C1697	A1627	G1627	G1494	U1433	U1366	U1365	U1303	A1238	A1166	C1090	C1009	U941	C870	C738	G738
C1698	A1630	G1630	G1496	A1433	G1436	G1368	U1304	G1241	A1167	C1091	U1010	U942	U871	A801	G739
C1699	C1631	A1631	A1568	G1436	G1437	G1371	C1305	A1242	G1168	U1092	A1011	U943	C872	A802	G740
C1700	A1632	G1632	U1500	G1437	G1438	G1372	U1306	G1243	G1169	U1092	A1011	U944	C873	C804	A741
C1701	C1633	G1633	C1501	G1438	G1439	A1372	U1307	U1244	U1170	A1095	A1012	A944	U874	G805	A742
C1702	A1634	G1634	G1502	G1439	G1440	G1373	C1308	G1245	A1171	A1096	A1012	A945	U875	A806	A743
C1703	G1635	G1635	G1503	G1440	G1441	G1374	G1309	G1246	U1172	A1099	C1016	G945	U876	A807	C744
C1704	G1638	G1638	U1504	A1441	A1442	C1375	C1310	U1247	A1099	A1099	C1017	G951	A876	C808	C745
C1705	C1639	G1639	U1505	G1442	G1443	C1376	C1311	G1248	A1099	A1019	U1018	A952	A886	C809	C746
C1706	C1641	G1641	U1509	G1443	G1444	G1377	C1312	G1249	G887	U1019	A1020	U954	G887	U810	C750
C1707	A1642	G1642	A1509	C1444	C1445	A1378	U1313	A1250	C1181	A1021	A1021	U955	G888	G811	C751
C1708	G1643	G1643	U1512	U1445	U1446	A1379	A1314	G1251	U1182	A1022	A1022	A956	C889	G812	G752
C1709	A1644	G1644	U1513	U1447	U1447	C1380	A1315	C1252	C1183	U1023	G1024	G957	U890	A813	G753
C1710	C1645	G1645	U1514	U1448	U1448	G1381	G1316	C1253	G1184	G1110	G1024	G958	G814	G814	G754
C1711	C1646	G1646	U1515	U1449	U1449	G1382	A1317	C1254	C1185	C1111	A1025	C959	A815	U816	G755
C1712	A1648	G1648	U1516	C1450	C1450	G1383	C1318	A1255	G1190	U1112	U1026	C960	U816	U816	C756
C1713	C1649	G1649	C1517	G1451	G1451	G1384	C1319	U1256	G1191	C1113	G1027	G961	G817	G817	U757
C1714	U1651	G1651	U1518	U1452	U1452	A1385	A1320	U1257	G1192	A1114	G1028	A964	G819	G819	U758
C1715	C1652	G1652	C1518	U1452	U1452	A1386	U1321	G1258	A1192	C1115	C1029	G965	U820	U820	C759
C1716	A1653	G1653	U1519	U1453	U1453	G1387	G1322	A1259	G1193	U1116	U1030	G966	A821	A821	U760
C1717	C1654	G1654	U1520	C1455	C1455	G1388	G1323	A1260	G1194	G1117	C1031	C968	C829	C829	C761
C1718	G1655	G1655	G1524	C1456	C1456	C1389	G1324	G1261	G1195	G1121	A1032	U969	U824	U824	A762
C1719	C1656	G1656	C1524	C1457	C1457	C1390	G1325	U1262	G1196	G1122	A1033	U970	C825	C825	A763
C1720	A1657	G1657	U1527	U1458	U1458	A1391	U1326	G1263	G1197	A1122	U1034	A970	U826	U826	A764
C1721	C1658	G1658	U1528	U1459	U1459	U1392	C1327	C1264	G1199	G1123	G1035	A971	C830	C830	C765
C1722	C1659	G1659	C1528	G1460	G1460	G1393	C1328	G1265	C972	U1124	G1036	A832	C831	C831	C766
C1723	C1660	G1660	U1529	C1461	C1461	A1397	U1329	A1266	G1200	G1125	U1037	U973	C832	C832	C767
C1724	C1661	G1661	C1530	C1462	C1462	G1398	G1332	U1267	G1201	G1126	U1038	U974	C833	C833	U768
C1725	A1662	G1662	C1531	A1463	A1463	C1399	U1268	U1269	U1202	A1126	A1039	C975	U834	U834	U769
C1726	G1663	G1663	U1532	C1464	C1464	C1400	A1334	G1269	A1203	U1130	A1040	C976	U835	U835	C770
C1727	C1664	G1664	G1533	G1465	G1465	A1400	U1334	C1270	G1204	G1131	G1041	G977	U836	U836	U770
C1728	C1665	G1665	U1534	C1466	C1466	G1401	A1335	C1271	G1205	C1132	C977	U978	U837	U837	C771
C1729	A1666	G1666	C1535	U1467	U1467	U1402	U1336	G1272	G1206	G1133	U1044	A979	A838	A838	G772
C1730	C1667	G1667	U1536	C1468	C1468	C1403	G1337	G1273	G1207	C1134	C1054	C980	U839	U839	G773
C1731	C1668	G1668	G1536	U1469	U1469	C1404	U1338	G1277	U1212	C1135	A1055	C981	U840	U840	A774
C1732	C1669	G1669	U1537	C1470	C1470	C1405	U1339	A1278	U1213	A1137	U1056	C982	G841	G841	U775
C1733	A1670	G1670	U1538	G1471	G1471	A1406	C1340	G1279	C1214	A1138	A1057	C983	A842	A842	G776
C1734	C1671	G1671	C1540	C1472	C1472	G1407	G1341	U1280	C1215	A1139	G1058	A984	G843	G843	A777
C1735	C1672	G1672	U1541	U1473	U1473	U1408	U1342	A1281	A1215	A1140	U1058	G985	G844	G844	G778
C1736	C1673	G1673	G1542	A1474	A1474	U1409	C1343	A1281	G1216	A1141	C1064	A986	C847	C847	U781
C1737	C1674	G1674	U1543	U1475	U1475	U1410	C1344	G1284	U1217	U1141	A1065	G987	A848	A848	G782
C1738	A1675	G1675	C1544	G1476	G1476	C1411	G1345	U1285	C1218	G1142	C1065	A990	U852	U852	U783
C1739	C1676	G1676	U1545	C1477	C1477	C1412	C1346	U1286	G1220	G1145	G1067	A991	C853	C853	U784
C1740	C1677	G1677	C1546	U1478	U1478	C1416	C1347	U1287	G1221	G1146	A1068	A992	U854	U854	U785
C1741	C1678	G1678	U1547	G1479	G1479	A1416	C1348	A1287	C1222	G1147	G1069	A993	G855	G855	U786
C1742	C1679	G1679	U1548	U1480	U1480	C1417	A1349	A1288	G1223	G1148	G1070	A994	G856	G856	U787
C1743	C1680	G1680	U1549	C1481	C1481	C1418	G1350	A1289	G1224	G1149	A1073	A995	G857	G857	A787
C1744	C1681	G1681	C1552	U1482	U1482	G1419	G1351	A1290	A1224	G1150	G1074	C926	U858	U858	G788
C1745	C1682	G1682	U1553	G1483	G1483	G1419	G1352	G1291	U1225	C1151	C1075	C927	U859	U859	G789
C1746	C1683	G1683	G1554	C1484	C1484	C1422	A1353	A1292	A1226	U1151	A1076	C928	G860	G860	A790
C1747	C1684	G1684	U1555	G1485	G1485	U1423	A1354	A1293	A1227	C1152	U1076	A999	U861	U861	G791
C1748	C1685	G1685	C1556	U1486	U1486	A1424	A1355	A1294	G1228	A1153	A1081	A930	U862	U862	U792
C1749	C1686	G1686	U1557	C1487	C1487	G1425	G1356	U1295	G1229	A1154	A1081	G932	U863	U863	G793






ASP  
VAL  
ASP  
ARG  
ARG  
LYS  
ILE  
ASP  
MET  
PRO  
LYS  
THR  
VAL  
LYS  
GLU  
VAL  
GLY  
GLU  
TYR  
ASP  
ILE  
ALA  
TYR  
ARG  
ALA  
HIS  
PRO  
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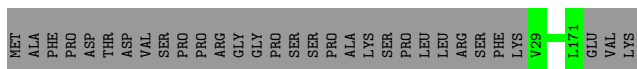
- Molecule 9: ribosomal protein L11

Chain G:  99%



- Molecule 10: ribosomal protein L13

Chain H:  82%




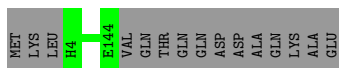
- Molecule 11: ribosomal protein L14

Chain I:  99%




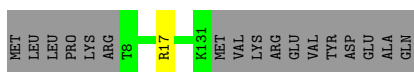
- Molecule 12: ribosomal protein L15

Chain J:  90%



- Molecule 13: ribosomal protein L16

Chain K:  87%



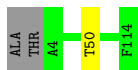
- Molecule 14: ribosomal protein L17

Chain L:  97%



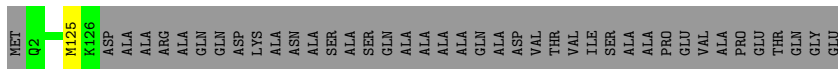
- Molecule 15: ribosomal protein L18

Chain M:  97%



- Molecule 16: ribosomal protein L19

Chain N:  75% 25%



- Molecule 17: ribosomal protein L20

Chain O:  99%



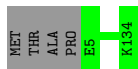
- Molecule 18: ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: ribosomal protein L22

Chain Q:  97%



- Molecule 20: ribosomal protein L23

Chain R:  99%



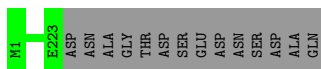
- Molecule 21: ribosomal protein L24

Chain S:  98%



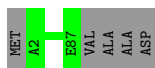
- Molecule 22: general stress protein Ctc

Chain T:  94% 6%

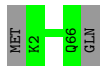


- Molecule 23: ribosomal protein L27

Chain U:  95% 5%



- Molecule 24: ribosomal protein L29



- Molecule 25: ribosomal protein L30



There are no outlier residues recorded for this chain.

- Molecule 26: ribosomal protein L31



There are no outlier residues recorded for this chain.

- Molecule 27: ribosomal protein L32



- Molecule 28: ribosomal protein L33



- Molecule 29: ribosomal protein L34



- Molecule 30: ribosomal protein L35



- Molecule 31: ribosomal protein L36





## 4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	171.00Å 409.50Å 695.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.50)	Depositor
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.13	Depositor
Refinement program	CNS	Depositor
R, $R_{free}$	0.285 , 0.313	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	65355	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	54.0	wwPDB-VP

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: 773

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	0	0.23	0/66467	0.67	0/103673
2	9	0.59	0/2816	0.81	1/4388 (0.0%)
All	All	0.25	0/69283	0.67	1/108061 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
2	9	94	G	N9-C1'-C2'	-6.58	104.76	112.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1342	U	Sidechain

### 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within

the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2141	0
2	9	2519	0	1285	147	0
3	A	270	0	0	0	0
4	B	205	0	0	2	0
5	C	197	0	0	0	0
6	D	178	0	0	1	0
7	E	177	0	0	1	0
8	F	52	0	0	1	0
9	G	143	0	0	0	0
10	H	143	0	0	0	0
11	I	132	0	0	0	0
12	J	141	0	0	0	0
13	K	124	0	0	1	0
14	L	114	0	0	1	0
15	M	111	0	0	1	0
16	N	125	0	0	1	0
17	O	117	0	0	0	0
18	P	100	0	0	0	0
19	Q	130	0	0	0	0
20	R	93	0	0	0	0
21	S	113	0	0	0	0
22	T	223	0	0	0	0
23	U	86	0	0	0	0
24	W	65	0	0	0	0
25	X	55	0	0	0	0
26	Y	73	0	0	0	0
27	Z	58	0	0	1	0
28	1	53	0	0	0	0
29	2	46	0	0	0	0
30	3	63	0	0	0	0
31	4	35	0	0	0	0
32	0	55	0	59	9	0
All	All	65355	0	31261	2286	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (2286) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2041:A:N6	32:0:2881:773:H143	1.54	1.19
1:0:2548:G:H2'	1:0:2549:G:H5''	1.21	1.17
1:0:1679:U:H2'	1:0:1680:U:H5''	1.27	1.16
1:0:2041:A:H61	32:0:2881:773:C14	1.58	1.16
1:0:1966:C:H4'	1:0:2585:C:H4'	1.22	1.14
1:0:2058:U:H1'	1:0:2576:G:H21	1.11	1.14
1:0:1908:C:H2'	1:0:1909:U:H4'	1.30	1.09
1:0:940:G:H3'	1:0:941:U:H5''	1.08	1.08
1:0:1747:G:H4'	1:0:1749:G:H1'	1.34	1.05
1:0:362:C:H2'	1:0:363:G:H4'	1.39	1.05
1:0:104:C:H2'	1:0:105:G:H5''	1.35	1.03
1:0:940:G:H3'	1:0:941:U:C5'	1.89	1.03
1:0:918:A:H2'	1:0:919:U:H5''	1.35	1.02
1:0:1458:A:H3'	1:0:1459:U:C5'	1.91	1.01
1:0:1976:U:H2'	1:0:1977:C:H5'	1.37	0.99
1:0:929:A:H3'	1:0:930:A:H5''	1.44	0.99
1:0:1073:G:H2'	1:0:1074:G:H4'	1.43	0.98
1:0:1280:U:H3	1:0:1996:A:H62	1.06	0.97
1:0:1182:U:H2'	1:0:1183:C:H5''	1.43	0.97
1:0:1900:U:O2'	1:0:1946:U:H5'	1.64	0.97
1:0:2299:A:H5'	1:0:2300:G:C4	2.00	0.96
1:0:2081:U:H2'	1:0:2082:C:H5''	1.44	0.96
1:0:688:A:H62	1:0:816:U:H3	1.05	0.95
1:0:2548:G:C2'	1:0:2549:G:H5''	1.95	0.95
1:0:2266:A:N6	1:0:2323:U:H1'	1.81	0.95
1:0:1679:U:C2'	1:0:1680:U:H5''	1.96	0.94
2:9:54:U:H2'	2:9:55:C:C6	2.03	0.94
1:0:1432:G:H21	1:0:1596:A:H62	1.13	0.94
1:0:75:C:H2'	1:0:76:C:H5''	1.49	0.94
1:0:1656:U:H2'	1:0:1657:A:H5''	1.50	0.94
1:0:941:U:H2'	1:0:942:U:O4'	1.69	0.93
1:0:2380:U:H2'	1:0:2381:A:H5'	1.49	0.92
1:0:58:C:H3'	1:0:59:G:H5''	1.50	0.92
2:9:25:G:H2'	2:9:26:G:O4'	1.69	0.92
1:0:2476:A:HO2'	1:0:2477:C:H5	0.97	0.92
2:9:84:G:H2'	2:9:85:G:H8	1.34	0.92
1:0:2599:U:H2'	1:0:2600:A:H5''	1.51	0.92
1:0:508:G:H1	1:0:516:G:H22	1.19	0.91
1:0:847:C:H41	1:0:955:G:H21	1.16	0.91
1:0:317:U:H2'	1:0:318:G:H5''	1.51	0.91
1:0:2014:A:H62	1:0:2477:C:H1'	1.34	0.90
1:0:2198:U:H3'	1:0:2199:C:H5''	1.53	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2266:A:H61	1:0:2323:U:H1'	1.32	0.90
1:0:716:U:H2'	1:0:717:G:O4'	1.71	0.90
1:0:28:A:H61	1:0:522:G:H4'	1.37	0.89
2:9:100:G:H2'	2:9:101:A:O4'	1.72	0.89
2:9:67:C:H2'	2:9:68:A:H5'	1.54	0.88
1:0:1791:C:H2'	1:0:1792:C:H5''	1.54	0.88
2:9:42:U:H2'	2:9:45:C:H41	1.35	0.88
1:0:317:U:H3	1:0:321:A:H62	1.20	0.88
2:9:4:C:H2'	2:9:5:C:C6	2.08	0.88
1:0:2059:U:H2'	1:0:2060:A:H5''	1.54	0.87
1:0:2096:U:H2'	1:0:2097:A:H5''	1.54	0.87
1:0:367:G:H2'	1:0:368:A:H5''	1.57	0.87
1:0:651:C:H2'	1:0:652:C:H5''	1.57	0.87
1:0:1312:G:H5'	1:0:1314:A:H1'	1.56	0.87
1:0:2691:C:H3'	1:0:2692:A:H5''	1.57	0.86
1:0:1748:U:H3	1:0:1753:A:H2	1.23	0.86
1:0:2737:A:H61	7:E:60:LYS:CA	1.88	0.86
1:0:2014:A:N6	1:0:2477:C:H1'	1.90	0.86
1:0:857:U:H2'	1:0:858:G:H5'	1.57	0.86
1:0:2636:A:H62	1:0:2643:G:H21	1.23	0.86
2:9:102:A:C2'	2:9:103:A:H5'	2.06	0.85
1:0:1252:C:C2'	1:0:1253:C:H5''	2.06	0.85
1:0:1621:C:H4'	1:0:1626:A:C6	2.12	0.85
1:0:2432:A:H4'	1:0:2551:A:O2'	1.75	0.85
1:0:1252:C:H2'	1:0:1253:C:H5''	1.59	0.85
1:0:2510:A:H61	1:0:2641:A:H61	1.24	0.85
1:0:1900:U:H2'	1:0:1901:A:O4'	1.77	0.85
1:0:2509:A:H2'	1:0:2510:A:H5''	1.59	0.85
1:0:763:A:H2	1:0:765:C:H1'	1.40	0.85
1:0:976:C:H5'	1:0:2252:A:H1'	1.58	0.84
1:0:658:G:H4'	1:0:2331:A:H5'	1.60	0.84
2:9:67:C:C2'	2:9:68:A:H5'	2.07	0.84
1:0:2324:G:H4'	1:0:2326:C:H5''	1.60	0.84
1:0:1463:A:H1'	1:0:1543:G:H22	1.40	0.83
1:0:2623:A:H2'	1:0:2624:G:O4'	1.76	0.83
1:0:616:U:H2'	1:0:617:U:H5''	1.58	0.83
1:0:1922:U:H1'	1:0:2570:C:O2'	1.79	0.83
1:0:1458:A:H3'	1:0:1459:U:H5''	1.60	0.83
2:9:102:A:O2'	2:9:103:A:H5'	1.77	0.83
1:0:88:G:H3'	1:0:89:A:H5''	1.61	0.83
1:0:1976:U:C2'	1:0:1977:C:H5'	2.07	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:762:A:H2'	1:0:763:A:H8	1.43	0.82
2:9:93:G:H2'	2:9:94:G:H8	1.42	0.82
1:0:641:G:H4'	1:0:651:C:O2'	1.79	0.82
1:0:2598:C:H4'	4:B:152:LYS:CA	2.10	0.82
1:0:681:A:H2'	1:0:683:A:N7	1.95	0.81
1:0:2498:U:H5''	1:0:2499:C:OP1	1.80	0.81
1:0:929:A:H2'	1:0:930:A:H4'	1.62	0.81
1:0:1181:C:H3'	1:0:1182:U:H5''	1.59	0.81
1:0:1900:U:H3'	1:0:1901:A:H8	1.43	0.81
1:0:1438:G:H2'	1:0:1439:G:O4'	1.81	0.81
2:9:92:G:H2'	2:9:93:G:H5'	1.62	0.81
1:0:1974:U:H2'	1:0:1975:G:H5''	1.63	0.81
1:0:2058:U:H1'	1:0:2576:G:N2	1.94	0.81
1:0:1922:U:O2	1:0:2571:G:H5'	1.79	0.81
2:9:12:C:H2'	2:9:13:C:O4'	1.81	0.81
1:0:922:A:H2'	1:0:923:A:H8	1.46	0.81
2:9:7:C:O2'	2:9:8:C:H5'	1.80	0.81
1:0:1463:A:H1'	1:0:1543:G:N2	1.95	0.81
1:0:556:A:H2'	1:0:557:U:H5'	1.62	0.80
1:0:542:A:H2'	1:0:543:G:H5'	1.63	0.80
1:0:70:A:O3'	1:0:71:A:H3'	1.80	0.80
1:0:2006:G:H4'	1:0:2596:C:O2'	1.82	0.80
1:0:2755:A:O2'	1:0:2756:A:H5'	1.80	0.80
1:0:1804:U:H2'	1:0:1805:G:H8	1.46	0.80
1:0:1791:C:H1'	1:0:1793:A:H5'	1.64	0.80
1:0:2499:C:H41	1:0:2521:A:H2	1.26	0.80
1:0:699:G:H21	1:0:700:C:H5''	1.47	0.80
1:0:1223:G:H21	1:0:1225:G:H21	1.30	0.80
1:0:1715:A:O2'	1:0:1716:G:H3'	1.82	0.80
1:0:1182:U:C2'	1:0:1183:C:H5''	2.13	0.79
1:0:2041:A:H61	32:0:2881:773:H143	0.68	0.79
1:0:930:A:H3'	1:0:931:G:H8	1.46	0.79
2:9:28:A:C2	2:9:29:C:H1'	2.18	0.79
1:0:1656:U:C2'	1:0:1657:A:H5''	2.12	0.79
1:0:558:G:H5''	1:0:559:C:C5	2.16	0.79
1:0:547:U:H2'	1:0:548:G:C8	2.17	0.79
1:0:2599:U:C2'	1:0:2600:A:H5''	2.11	0.79
2:9:65:A:H2'	2:9:66:G:C8	2.17	0.79
1:0:873:U:C2	1:0:2246:A:H5''	2.17	0.79
1:0:1886:G:H2'	1:0:1887:G:H8	1.46	0.79
1:0:2872:U:H2'	1:0:2873:G:C8	2.18	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1811:A:H1'	1:0:1813:A:C5	2.18	0.79
1:0:752:G:H5'	1:0:1775:A:H61	1.47	0.79
1:0:590:C:H2'	1:0:591:G:C8	2.17	0.79
1:0:652:C:H42	1:0:657:A:H61	1.27	0.79
1:0:873:U:H1'	1:0:2246:A:OP1	1.83	0.79
1:0:635:C:H2'	1:0:636:G:H5''	1.64	0.78
1:0:2672:U:H2'	1:0:2673:G:H8	1.47	0.78
1:0:357:A:H2'	1:0:358:C:H5'	1.63	0.78
1:0:792:U:H2'	1:0:793:G:H5'	1.65	0.78
1:0:1088:A:H2'	1:0:1089:C:O4'	1.83	0.78
1:0:1807:A:O2'	1:0:1808:C:H4'	1.83	0.78
1:0:1900:U:H3'	1:0:1901:A:C8	2.19	0.78
1:0:416:U:H5''	1:0:417:C:H5'	1.65	0.78
2:9:78:A:H2'	2:9:79:U:C6	2.19	0.78
1:0:1195:U:H2'	1:0:1196:G:C8	2.19	0.78
1:0:1299:A:H2'	1:0:1301:U:OP2	1.83	0.78
2:9:92:G:C2'	2:9:93:G:H5'	2.14	0.78
1:0:1319:C:H2'	1:0:1320:A:H8	1.47	0.78
2:9:58:G:H4'	2:9:59:A:H5'	1.64	0.78
1:0:187:U:H2'	1:0:188:G:H8	1.49	0.77
1:0:762:A:H2'	1:0:763:A:C8	2.19	0.77
1:0:218:A:O2'	1:0:219:G:H4'	1.84	0.77
1:0:1697:U:H2'	1:0:1698:C:O4'	1.84	0.77
1:0:2861:A:H2'	1:0:2862:G:H8	1.49	0.77
1:0:1086:C:H2'	1:0:1087:C:H5''	1.65	0.77
1:0:168:A:H2'	1:0:169:C:C6	2.20	0.77
1:0:689:A:H8	1:0:2052:G:H21	1.32	0.77
1:0:2447:G:H22	1:0:2460:G:H2'	1.49	0.77
1:0:613:A:H2'	1:0:614:G:H8	1.49	0.77
2:9:69:G:H2'	2:9:70:C:O4'	1.84	0.77
1:0:1032:A:H2'	1:0:1033:G:H4'	1.63	0.77
1:0:2437:G:N1	1:0:2469:G:H2'	2.00	0.77
1:0:1825:C:O2'	1:0:1826:U:H5'	1.85	0.77
1:0:918:A:C2'	1:0:919:U:H5''	2.11	0.77
2:9:65:A:H2'	2:9:66:G:H8	1.50	0.77
1:0:1066:G:H2'	1:0:1067:G:H4'	1.67	0.77
1:0:951:G:H2'	1:0:952:A:H5''	1.65	0.77
1:0:2262:C:H2'	1:0:2263:C:O4'	1.85	0.77
1:0:2474:G:H2'	1:0:2475:C:O4'	1.85	0.77
1:0:2770:A:H4'	1:0:2867:G:H22	1.49	0.76
1:0:75:C:C2'	1:0:76:C:H5''	2.15	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1459:U:H2'	1:0:1475:U:O2'	1.84	0.76
1:0:1911:A:H2'	1:0:1912:G:H5'	1.67	0.76
1:0:2320:G:H2'	1:0:2321:C:O4'	1.85	0.76
1:0:103:U:H2'	1:0:104:C:C6	2.20	0.76
1:0:1242:A:H2'	1:0:1243:G:C8	2.21	0.76
1:0:1608:U:H2'	1:0:1609:G:H8	1.51	0.76
2:9:77:G:H2'	2:9:78:A:O4'	1.84	0.76
1:0:37:C:H2'	1:0:38:G:C8	2.20	0.76
1:0:1763:G:H2'	1:0:1764:A:H4'	1.67	0.75
1:0:2633:A:H61	1:0:2646:C:N4	1.83	0.75
1:0:37:C:H2'	1:0:38:G:H8	1.51	0.75
1:0:468:A:O2'	1:0:469:G:H4'	1.86	0.75
1:0:215:G:H21	1:0:632:A:H8	1.31	0.75
1:0:2436:U:H2'	1:0:2437:G:O4'	1.86	0.75
1:0:1036:G:H1'	1:0:1145:C:C4'	2.16	0.75
1:0:547:U:H2'	1:0:548:G:H8	1.51	0.75
1:0:1036:G:H1'	1:0:1145:C:H4'	1.68	0.75
1:0:2861:A:H2'	1:0:2862:G:C8	2.21	0.75
1:0:404:A:H1'	1:0:424:G:O2'	1.85	0.75
1:0:930:A:H3'	1:0:931:G:C8	2.22	0.75
1:0:1440:G:H1'	1:0:1588:A:N6	2.01	0.75
1:0:1587:A:H2'	1:0:1588:A:C8	2.22	0.75
1:0:1055:A:C2	1:0:1121:G:H2'	2.22	0.75
1:0:1035:G:H21	1:0:1155:G:H4'	1.50	0.75
1:0:755:C:H5'	1:0:1692:C:O2'	1.86	0.75
1:0:2652:G:H2'	1:0:2653:A:H8	1.50	0.74
1:0:727:U:H2'	1:0:728:G:H5''	1.69	0.74
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.74
1:0:2498:U:OP1	1:0:2498:U:H3'	1.87	0.74
1:0:114:C:H4'	1:0:124:A:O2'	1.88	0.74
1:0:1463:A:C1'	1:0:1543:G:H22	2.01	0.74
1:0:2270:U:O2'	1:0:2353:G:H1'	1.88	0.74
1:0:2616:U:H2'	1:0:2617:G:O4'	1.87	0.74
1:0:1223:G:N2	1:0:1225:G:H21	1.85	0.74
1:0:2329:C:H2'	1:0:2330:G:O4'	1.87	0.74
1:0:922:A:H2'	1:0:923:A:C8	2.22	0.74
1:0:1348:C:H2'	1:0:1349:A:C8	2.22	0.74
1:0:28:A:N6	1:0:522:G:H4'	2.02	0.74
1:0:1284:G:C4	1:0:1633:C:H5'	2.23	0.73
1:0:1750:A:H1'	1:0:2690:A:C2	2.23	0.73
1:0:1681:A:C2	1:0:2706:U:H1'	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:31:A:H2'	2:9:32:C:O4'	1.89	0.73
1:0:1608:U:H2'	1:0:1609:G:C8	2.24	0.73
1:0:2299:A:H5'	1:0:2300:G:C5	2.23	0.73
1:0:2318:U:H2'	1:0:2319:G:H8	1.51	0.73
1:0:169:C:H2'	1:0:170:U:H5'	1.71	0.73
1:0:940:G:C3'	1:0:941:U:H5''	2.04	0.73
1:0:1747:G:H4'	1:0:1749:G:C1'	2.18	0.73
1:0:2268:G:H5''	1:0:2363:G:O2'	1.89	0.73
1:0:612:G:O3'	1:0:613:A:H4'	1.89	0.73
1:0:821:A:O2'	1:0:1267:A:H4'	1.89	0.73
1:0:1471:G:H1	1:0:2682:C:H42	1.35	0.73
2:9:48:A:O2'	2:9:49:C:H5'	1.88	0.72
1:0:1982:C:H4'	1:0:2703:C:O2	1.88	0.72
1:0:1202:U:H2'	1:0:1203:A:H8	1.52	0.72
1:0:763:A:C2	1:0:765:C:H1'	2.23	0.72
1:0:841:G:H2'	1:0:842:A:C8	2.25	0.72
1:0:792:U:C2'	1:0:793:G:H5'	2.19	0.72
1:0:162:C:H2'	1:0:163:A:C8	2.23	0.72
1:0:2456:U:H1'	1:0:2460:G:H22	1.53	0.72
1:0:2669:C:H41	14:L:15:SER:CA	2.03	0.72
1:0:81:C:H2'	1:0:82:G:O4'	1.89	0.72
1:0:1267:A:H5''	1:0:1268:U:O5'	1.88	0.72
1:0:1295:U:H2'	1:0:1296:G:H5'	1.71	0.71
1:0:2670:C:H4'	1:0:2846:G:O2'	1.90	0.71
1:0:208:C:H2'	1:0:209:G:H5'	1.70	0.71
1:0:2599:U:C3'	1:0:2600:A:H5''	2.20	0.71
1:0:1040:A:H2'	1:0:1041:G:H5'	1.70	0.71
1:0:1225:G:H2'	1:0:1249:G:H22	1.53	0.71
1:0:1445:A:H2'	1:0:1446:U:O4'	1.90	0.71
2:9:61:A:O5'	2:9:61:A:H8	1.73	0.71
1:0:1654:A:H4'	1:0:2690:A:O2'	1.89	0.71
1:0:2503:G:H2'	1:0:2504:G:H5''	1.70	0.71
1:0:2674:C:H2'	1:0:2675:U:H6	1.54	0.71
1:0:1429:A:H62	1:0:1601:U:H5''	1.55	0.71
1:0:331:U:H2'	1:0:332:C:H5''	1.71	0.71
1:0:651:C:C2'	1:0:652:C:H5''	2.20	0.71
1:0:58:C:H3'	1:0:59:G:C5'	2.19	0.71
1:0:1976:U:H2'	1:0:1977:C:C5'	2.17	0.71
1:0:19:C:H5'	1:0:563:U:OP1	1.90	0.71
2:9:28:A:H3'	2:9:29:C:H6	1.55	0.71
2:9:36:A:H2'	2:9:46:G:O6	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2198:U:C3'	1:0:2199:C:H5''	2.21	0.71
1:0:2324:G:O2'	1:0:2325:A:H5''	1.90	0.71
1:0:1466:C:H2'	1:0:1467:U:O4'	1.89	0.71
1:0:2176:U:H2'	1:0:2177:U:O4'	1.91	0.71
1:0:2185:U:H2'	1:0:2186:G:C8	2.26	0.70
1:0:618:A:H2'	1:0:619:A:O4'	1.89	0.70
1:0:1479:G:H2'	1:0:1480:G:H8	1.55	0.70
1:0:2315:A:O2'	1:0:2364:C:H5''	1.91	0.70
1:0:2321:C:H2'	1:0:2322:U:O4'	1.91	0.70
1:0:1762:C:O2'	1:0:1777:A:H1'	1.91	0.70
1:0:162:C:H4'	1:0:195:A:H4'	1.71	0.70
1:0:460:U:N3	1:0:592:G:H1'	2.06	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:523:A:H4'	1:0:1230:C:H5''	1.74	0.70
2:9:71:G:N2	2:9:72:C:H1'	2.07	0.70
1:0:1068:A:H2'	1:0:1069:G:C8	2.27	0.70
1:0:953:G:H1'	1:0:1203:A:H2	1.55	0.70
1:0:1479:G:H2'	1:0:1480:G:C8	2.27	0.70
1:0:1598:C:H2'	1:0:1599:G:O4'	1.91	0.70
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.70
1:0:1280:U:H3	1:0:1996:A:N6	1.85	0.70
1:0:1617:G:H2'	1:0:1618:U:H5''	1.72	0.70
1:0:245:C:H5''	1:0:372:U:O2'	1.91	0.70
1:0:814:G:H3'	1:0:815:A:H5''	1.73	0.70
2:9:84:G:O2'	2:9:85:G:H5''	1.91	0.70
1:0:1284:G:N3	1:0:1633:C:H5''	2.07	0.70
1:0:1789:U:H2'	1:0:1790:G:H5''	1.74	0.70
1:0:236:C:H2'	1:0:237:G:H8	1.57	0.70
1:0:734:G:H2'	1:0:735:G:H8	1.57	0.70
1:0:1436:G:H21	1:0:1514:C:H1''	1.57	0.69
1:0:2202:G:H2'	1:0:2203:G:O4'	1.92	0.69
1:0:2469:G:H5''	1:0:2470:U:OP1	1.91	0.69
1:0:2841:U:H1'	1:0:2843:A:H1''	1.72	0.69
1:0:109:A:C3'	1:0:110:U:H5''	2.22	0.69
1:0:2836:U:H2'	1:0:2837:G:C8	2.26	0.69
2:9:4:C:H2'	2:9:5:C:H6	1.57	0.69
1:0:109:A:H2'	1:0:110:U:H5''	1.72	0.69
1:0:486:U:H4'	1:0:520:C:H5''	1.74	0.69
1:0:541:C:H42	1:0:572:G:H8	1.40	0.69
1:0:652:C:H42	1:0:657:A:N6	1.89	0.69
1:0:1091:C:H2'	1:0:1092:U:C6	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1869:A:H2'	1:0:1870:U:O4'	1.92	0.69
1:0:964:A:H2'	1:0:965:G:H8	1.57	0.69
1:0:760:U:O2	1:0:1997:A:H1'	1.92	0.69
1:0:2510:A:N6	1:0:2641:A:H61	1.89	0.69
1:0:1653:C:H2'	1:0:1654:A:C8	2.28	0.69
1:0:2836:U:H2'	1:0:2837:G:H8	1.57	0.69
1:0:798:G:H2'	1:0:799:C:H5'	1.75	0.69
2:9:6:C:H2'	2:9:7:C:C6	2.26	0.69
1:0:616:U:C2'	1:0:617:U:H5''	2.23	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.08	0.69
1:0:50:G:H2'	1:0:117:A:C2	2.28	0.69
1:0:1695:U:H2'	1:0:1696:C:O4'	1.93	0.69
1:0:462:G:H2'	1:0:463:C:C5'	2.22	0.69
1:0:69:G:H5''	1:0:70:A:OP1	1.93	0.69
1:0:939:C:H2'	1:0:940:G:C8	2.28	0.69
1:0:2308:A:H2'	1:0:2309:G:C8	2.28	0.68
1:0:2466:G:H2'	1:0:2467:A:C8	2.28	0.68
2:9:84:G:H2'	2:9:85:G:C8	2.22	0.68
1:0:1194:U:H2'	1:0:1195:U:C6	2.28	0.68
1:0:216:U:H5''	1:0:601:A:N6	2.08	0.68
1:0:1467:U:H3'	1:0:1468:A:C5'	2.23	0.68
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.68
1:0:77:C:H2'	1:0:78:C:C6	2.29	0.68
1:0:187:U:H2'	1:0:188:G:C8	2.28	0.68
1:0:2041:A:N1	32:0:2881:773:H9	2.07	0.68
1:0:1325:U:H4'	1:0:1326:U:C6	2.29	0.68
1:0:1953:A:H1'	1:0:1955:G:C1'	2.23	0.68
1:0:459:A:H1'	1:0:461:A:N6	2.08	0.68
1:0:490:A:O2'	1:0:491:A:H5'	1.93	0.68
1:0:2757:G:H5'	1:0:2761:A:H1'	1.76	0.68
1:0:475:U:H2'	1:0:476:G:O4'	1.94	0.68
1:0:239:A:H4'	1:0:620:G:H5'	1.75	0.68
1:0:71:A:N6	1:0:110:U:H4'	2.09	0.68
1:0:1474:A:N3	1:0:1474:A:H3'	2.09	0.68
1:0:1727:C:H4'	1:0:2833:C:N3	2.09	0.67
1:0:2199:C:H2'	1:0:2200:G:C8	2.29	0.67
1:0:1197:U:H2'	1:0:1198:C:O4'	1.94	0.67
1:0:2469:G:H4'	1:0:2470:U:C5	2.30	0.67
1:0:2829:A:H2'	1:0:2830:U:O4'	1.94	0.67
1:0:1791:C:O2'	1:0:1793:A:H5'	1.94	0.67
1:0:2491:C:H3'	1:0:2492:G:H5''	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2532:G:C2	1:0:2533:U:H1'	2.30	0.67
1:0:2761:A:H5''	1:0:2762:G:H5'	1.77	0.67
1:0:13:A:H1'	1:0:536:A:N6	2.09	0.67
1:0:1949:A:O2'	1:0:2572:U:H5'	1.95	0.67
1:0:951:G:C2'	1:0:952:A:H5''	2.24	0.67
1:0:1312:G:H5''	1:0:1313:U:C5'	2.25	0.67
1:0:2781:G:H2'	1:0:2782:G:O4'	1.94	0.67
1:0:652:C:N4	1:0:657:A:H61	1.92	0.67
1:0:1271:C:H2'	1:0:1272:G:C8	2.30	0.67
1:0:1588:A:H2'	1:0:1589:G:H8	1.60	0.67
1:0:2691:C:H3'	1:0:2692:A:C5'	2.24	0.67
1:0:2708:U:H2'	1:0:2709:C:C6	2.30	0.67
1:0:1302:C:O2'	1:0:1343:C:H4'	1.94	0.66
1:0:313:U:H2'	1:0:314:G:C8	2.29	0.66
1:0:175:C:H1'	1:0:2413:A:H61	1.59	0.66
1:0:170:U:H2'	1:0:171:G:H8	1.60	0.66
1:0:2274:C:H2'	1:0:2275:U:H5''	1.75	0.66
2:9:29:C:H2'	2:9:30:C:C6	2.31	0.66
1:0:1029:C:H3'	1:0:1030:U:H5''	1.76	0.66
1:0:1325:U:H4'	1:0:1326:U:C5	2.30	0.66
1:0:1547:U:H2'	1:0:1548:U:C6	2.30	0.66
1:0:1763:G:N2	1:0:1765:C:H5''	2.10	0.66
1:0:427:C:H2'	1:0:428:A:H8	1.59	0.66
1:0:951:G:C3'	1:0:952:A:H5''	2.25	0.66
1:0:999:A:H4'	1:0:1166:A:N1	2.11	0.66
1:0:1371:G:H1'	1:0:1386:A:N6	2.10	0.66
1:0:2785:A:H2'	1:0:2786:G:O4'	1.96	0.66
2:9:40:C:H2'	2:9:41:A:O4'	1.96	0.66
1:0:118:U:H1'	1:0:143:A:C8	2.31	0.66
1:0:1452:U:H5''	1:0:1533:G:H5'	1.78	0.66
1:0:1440:G:H1'	1:0:1588:A:H61	1.60	0.66
1:0:2390:A:H2'	1:0:2391:A:H8	1.60	0.66
1:0:2523:G:H1'	1:0:2625:U:H5'	1.77	0.66
1:0:2674:C:H2'	1:0:2675:U:C6	2.31	0.66
1:0:734:G:H2'	1:0:735:G:C8	2.30	0.66
1:0:88:G:H3'	1:0:89:A:C5'	2.24	0.66
1:0:9:U:H3	1:0:2608:A:N6	1.93	0.66
1:0:109:A:C2'	1:0:110:U:H5''	2.26	0.66
1:0:174:A:C4'	1:0:2051:U:H2'	2.26	0.66
1:0:2308:A:H2'	1:0:2309:G:H8	1.59	0.66
1:0:930:A:H5'	1:0:931:G:N7	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2491:C:H2'	1:0:2492:G:C4'	2.26	0.66
1:0:2783:U:O2'	1:0:2784:A:H4'	1.95	0.66
1:0:1851:A:H61	1:0:1867:A:H1'	1.60	0.66
1:0:2081:U:C2'	1:0:2082:C:H5''	2.21	0.66
1:0:2811:G:H2'	1:0:2812:A:C8	2.31	0.66
1:0:705:C:H2'	1:0:706:A:C8	2.31	0.66
1:0:942:U:C2'	1:0:943:U:H5'	2.26	0.66
1:0:1055:A:H2	1:0:1121:G:H2'	1.60	0.66
2:9:62:C:N4	2:9:63:A:H62	1.93	0.66
1:0:2375:G:H2'	1:0:2376:G:H8	1.60	0.65
1:0:367:G:C2'	1:0:368:A:H5''	2.26	0.65
1:0:1301:U:H2'	1:0:1664:G:H21	1.61	0.65
1:0:2158:C:H2'	1:0:2159:A:H8	1.61	0.65
1:0:2522:G:H21	1:0:2625:U:H5''	1.60	0.65
1:0:632:A:H2'	1:0:633:G:O4'	1.96	0.65
1:0:1811:A:H1'	1:0:1813:A:C4	2.30	0.65
1:0:2483:U:H3'	1:0:2484:G:C5'	2.26	0.65
1:0:2605:C:H2'	1:0:2606:G:O4'	1.95	0.65
1:0:564:U:H2'	1:0:565:A:C8	2.31	0.65
1:0:1958:G:H2'	1:0:1959:U:C6	2.31	0.65
1:0:2510:A:H61	1:0:2641:A:N6	1.95	0.65
1:0:2199:C:H2'	1:0:2200:G:H8	1.61	0.65
1:0:2240:C:H2'	1:0:2241:U:H5'	1.78	0.65
1:0:2279:G:H2'	1:0:2280:A:H8	1.61	0.65
1:0:1480:G:H2'	1:0:1481:U:H5'	1.78	0.65
1:0:1529:C:H2'	1:0:1530:U:O4'	1.97	0.65
1:0:509:U:H2'	1:0:510:G:H5'	1.77	0.65
1:0:1388:C:H2'	1:0:1389:C:H6	1.62	0.65
1:0:190:A:H2'	1:0:191:G:C8	2.32	0.65
1:0:2122:G:H2'	1:0:2123:G:C8	2.32	0.65
1:0:2480:C:H4'	1:0:2482:A:O4'	1.97	0.65
1:0:492:G:H22	1:0:519:C:H42	1.43	0.65
1:0:804:C:O2'	1:0:806:A:H4'	1.97	0.65
2:9:115:G:O2'	2:9:116:C:H5'	1.97	0.65
1:0:459:A:N6	1:0:484:G:H1'	2.12	0.64
1:0:669:G:H2'	1:0:670:U:C6	2.32	0.64
1:0:995:A:H5''	1:0:996:C:H5	1.62	0.64
1:0:17:G:H2'	1:0:18:U:C6	2.33	0.64
1:0:2476:A:O2'	1:0:2477:C:H5	1.74	0.64
1:0:2045:A:N6	32:0:2881:773:H131	2.12	0.64
1:0:2437:G:H2'	1:0:2469:G:N1	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2609:G:H21	1:0:2866:A:H2	1.46	0.64
1:0:1181:C:C3'	1:0:1182:U:H5''	2.28	0.64
1:0:1561:A:H2'	1:0:1562:G:O4'	1.98	0.64
1:0:1838:G:H2'	1:0:1839:A:H5'	1.80	0.64
1:0:1804:U:H2'	1:0:1805:G:C8	2.31	0.64
1:0:2261:G:H4'	1:0:2262:C:OP2	1.95	0.64
1:0:1680:U:O2'	1:0:2665:G:H4'	1.97	0.64
1:0:414:A:H2'	1:0:415:A:O4'	1.97	0.64
2:9:42:U:C2'	2:9:45:C:H41	2.08	0.64
1:0:114:C:O2'	1:0:124:A:H1'	1.96	0.64
1:0:2057:U:H2'	1:0:2058:U:C6	2.33	0.64
1:0:2273:C:H2'	1:0:2274:C:C6	2.32	0.64
1:0:509:U:H3	1:0:513:A:H62	1.43	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.33	0.64
1:0:764:A:H2'	1:0:764:A:N3	2.12	0.64
1:0:890:U:H2'	1:0:891:A:C8	2.32	0.64
1:0:929:A:C3'	1:0:930:A:H5''	2.26	0.64
2:9:63:A:H2'	2:9:64:C:H6	1.63	0.64
1:0:1591:U:H2'	1:0:1592:U:O4'	1.98	0.64
1:0:2158:C:H2'	1:0:2159:A:C8	2.33	0.64
1:0:109:A:H3'	1:0:110:U:H5''	1.78	0.64
1:0:1495:G:H2'	1:0:1496:G:C8	2.32	0.64
1:0:1502:G:O2'	1:0:1503:G:H5'	1.98	0.64
1:0:2490:U:H2'	1:0:2491:C:C6	2.33	0.64
1:0:987:G:H5'	1:0:1167:A:N6	2.13	0.64
1:0:1029:C:C3'	1:0:1030:U:H5''	2.28	0.63
1:0:2082:C:H2'	1:0:2083:G:O4'	1.98	0.63
1:0:2395:C:H2'	1:0:2396:C:H5''	1.79	0.63
1:0:1073:G:H3'	1:0:1074:G:H5''	1.81	0.63
1:0:2507:U:O2'	1:0:2508:G:H3'	1.98	0.63
1:0:820:U:H2'	1:0:821:A:H8	1.63	0.63
1:0:208:C:C2'	1:0:209:G:H5'	2.28	0.63
1:0:2491:C:H2'	1:0:2492:G:O4'	1.99	0.63
1:0:520:C:O2'	1:0:1249:G:H5'	1.99	0.63
1:0:824:U:H4'	1:0:1264:C:H1'	1.80	0.63
1:0:968:C:H41	1:0:970:A:H1'	1.63	0.63
1:0:1139:A:O2'	1:0:2495:G:H4'	1.98	0.63
1:0:2770:A:C4'	1:0:2867:G:H22	2.12	0.63
1:0:427:C:H2'	1:0:428:A:C8	2.33	0.63
1:0:1587:A:H2'	1:0:1588:A:H8	1.63	0.63
1:0:165:G:H2'	1:0:166:G:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2866:A:H2'	1:0:2867:G:O4'	1.99	0.63
1:0:139:A:H2'	1:0:140:G:H8	1.64	0.63
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.63
1:0:2380:U:C2'	1:0:2381:A:H5'	2.26	0.63
1:0:752:G:H5'	1:0:1775:A:N6	2.14	0.63
1:0:1004:A:H2'	1:0:1005:U:H5''	1.80	0.63
1:0:163:A:H2'	1:0:164:G:H8	1.63	0.63
1:0:1974:U:C2'	1:0:1975:G:H5''	2.29	0.63
1:0:2781:G:H2'	1:0:2782:G:C1'	2.29	0.63
1:0:2787:A:O2'	1:0:2788:C:H5'	1.99	0.63
1:0:441:A:H2'	1:0:442:A:O4'	1.99	0.63
1:0:1641:C:H2'	1:0:1642:G:O4'	1.99	0.63
1:0:1918:G:H1'	1:0:1947:G:C2	2.33	0.63
1:0:2456:U:H1'	1:0:2460:G:N2	2.13	0.63
1:0:792:U:H2'	1:0:793:G:C5'	2.27	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.99	0.63
1:0:2633:A:H2	1:0:2644:A:H5''	1.64	0.63
1:0:1268:U:H5'	1:0:1269:G:H5''	1.81	0.62
1:0:1690:U:H2'	1:0:1691:G:H5'	1.80	0.62
1:0:2839:G:H2'	1:0:2840:U:C6	2.33	0.62
1:0:1473:U:H4'	1:0:1474:A:C5	2.34	0.62
1:0:1770:U:H2'	1:0:1774:A:H62	1.64	0.62
1:0:1972:G:H2'	1:0:1973:C:O4'	1.99	0.62
1:0:2085:G:H2'	1:0:2086:U:C6	2.34	0.62
1:0:401:G:H2'	1:0:403:A:N7	2.15	0.62
2:9:18:G:H2'	2:9:19:C:H6	1.63	0.62
2:9:30:C:O5'	2:9:30:C:H6	1.80	0.62
1:0:1329:U:H5'	1:0:1405:A:H1'	1.79	0.62
1:0:1789:U:O2'	1:0:1793:A:H1'	2.00	0.62
1:0:1743:C:H41	16:N:125:MET:CA	2.11	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.81	0.62
1:0:2012:A:C5	1:0:2014:A:H5'	2.35	0.62
1:0:2495:G:H2'	1:0:2496:C:C6	2.35	0.62
1:0:2507:U:HO2'	1:0:2508:G:H8	1.47	0.62
1:0:2521:A:H5'	1:0:2522:G:OP1	1.99	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.63	0.62
1:0:1204:G:H2'	1:0:1205:G:C8	2.34	0.62
1:0:1313:U:H1'	1:0:1642:G:N2	2.14	0.62
1:0:2273:C:H2'	1:0:2274:C:H6	1.65	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1319:C:H2'	1:0:1320:A:C8	2.32	0.62
1:0:2672:U:H2'	1:0:2673:G:C8	2.33	0.62
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.62
1:0:223:C:H4'	1:0:398:C:H1'	1.81	0.62
1:0:683:A:H5''	1:0:684:C:OP1	2.00	0.62
1:0:1560:A:H2'	1:0:1561:A:O4'	2.00	0.62
1:0:1707:A:N7	1:0:1714:A:H2	1.98	0.62
1:0:2377:U:H2'	1:0:2378:G:C8	2.34	0.62
1:0:2770:A:C5'	1:0:2867:G:H1	2.13	0.62
1:0:782:U:H2'	1:0:783:G:C8	2.35	0.62
1:0:927:C:H2'	1:0:928:G:O4'	1.99	0.62
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.62
1:0:2001:G:H2'	1:0:2002:A:C8	2.35	0.62
1:0:2011:U:H2'	1:0:2012:A:C8	2.35	0.62
1:0:888:G:H2'	1:0:889:C:O4'	2.00	0.62
2:9:114:C:O5'	2:9:114:C:H6	1.82	0.62
1:0:1191:G:H2'	1:0:1192:A:H8	1.65	0.61
1:0:1429:A:N6	1:0:1602:G:H5'	2.15	0.61
1:0:210:A:N6	1:0:442:A:H61	1.97	0.61
1:0:460:U:H3	1:0:592:G:H1'	1.64	0.61
1:0:942:U:O2'	1:0:943:U:H5'	2.00	0.61
1:0:1352:G:H2'	1:0:1353:A:C8	2.35	0.61
1:0:2426:G:O6	1:0:2479:U:H2'	2.00	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
2:9:56:G:H2'	2:9:57:U:O4'	1.99	0.61
1:0:1730:G:H2'	1:0:1731:C:C6	2.35	0.61
1:0:2045:A:H61	32:0:2881:773:H131	1.63	0.61
1:0:1057:A:H3'	1:0:1058:G:C5'	2.31	0.61
1:0:321:A:H2'	1:0:323:G:N7	2.15	0.61
1:0:483:A:H2'	1:0:484:G:H5'	1.82	0.61
1:0:2764:U:H2'	1:0:2765:C:C6	2.36	0.61
1:0:614:G:H2'	1:0:615:C:H6	1.64	0.61
1:0:929:A:H2'	1:0:930:A:C4'	2.31	0.61
1:0:141:G:H2'	1:0:142:U:C6	2.36	0.61
1:0:1196:G:C2'	1:0:1197:U:H5'	2.30	0.61
1:0:1717:A:H2'	1:0:1718:A:H5'	1.81	0.61
1:0:1760:G:O2'	1:0:1761:G:H5'	2.01	0.61
1:0:2686:C:H2'	1:0:2687:G:C8	2.35	0.61
1:0:857:U:C2'	1:0:858:G:H5'	2.31	0.61
1:0:870:C:H2'	1:0:871:U:C6	2.36	0.61
1:0:2437:G:H1	1:0:2469:G:H2'	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1937:G:N3	1:0:2530:C:H5'	2.16	0.61
1:0:2713:A:H2'	1:0:2714:A:C8	2.36	0.61
1:0:2721:A:H2'	1:0:2722:C:O4'	2.01	0.61
1:0:2872:U:H2'	1:0:2873:G:H8	1.63	0.61
2:9:14:C:H4'	2:9:17:A:H61	1.65	0.61
2:9:62:C:N4	2:9:63:A:N6	2.48	0.61
1:0:1194:U:H2'	1:0:1195:U:C5	2.35	0.61
1:0:775:U:O2	1:0:1445:A:H5''	2.00	0.61
1:0:1588:A:H2'	1:0:1589:G:C8	2.36	0.61
1:0:1514:C:H5'	1:0:1593:C:C5'	2.31	0.61
1:0:1710:U:H3	1:0:1821:A:H61	1.48	0.61
1:0:202:A:H2'	1:0:203:G:O4'	2.01	0.61
1:0:657:A:H2'	1:0:658:G:C8	2.36	0.61
1:0:1225:G:H2'	1:0:1249:G:N2	2.16	0.60
1:0:146:C:H2'	1:0:147:G:C8	2.36	0.60
2:9:58:G:H4'	2:9:59:A:C5'	2.29	0.60
1:0:2463:G:O2'	1:0:2464:G:H5'	2.01	0.60
1:0:2633:A:H5''	1:0:2634:G:OP1	2.02	0.60
1:0:574:C:H4'	1:0:1266:G:O6	2.01	0.60
1:0:639:G:H2'	1:0:640:C:C6	2.36	0.60
1:0:62:U:H2'	1:0:63:A:C8	2.36	0.60
1:0:2177:U:H2'	1:0:2178:U:C6	2.35	0.60
2:9:113:G:H2'	2:9:114:C:C6	2.36	0.60
1:0:1889:G:H2'	1:0:1890:G:C8	2.37	0.60
1:0:330:C:O2'	1:0:331:U:H5'	2.00	0.60
1:0:976:C:H5'	1:0:2252:A:C1'	2.31	0.60
1:0:1672:A:C2	1:0:2032:G:H4'	2.36	0.60
1:0:2713:A:H2'	1:0:2714:A:H8	1.67	0.60
1:0:2617:G:H21	1:0:2758:A:H62	1.48	0.60
1:0:2770:A:H5'	1:0:2867:G:H1	1.67	0.60
1:0:1295:U:C2'	1:0:1296:G:H5'	2.31	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.01	0.60
1:0:2005:U:H5''	1:0:2006:G:OP1	2.00	0.60
1:0:2194:A:C2'	1:0:2195:C:H5''	2.32	0.60
2:9:42:U:O5'	2:9:42:U:H6	1.83	0.60
1:0:2398:U:H2'	1:0:2399:C:C6	2.36	0.60
1:0:2754:C:H2'	1:0:2755:A:C8	2.36	0.60
1:0:538:A:H2'	1:0:539:A:H5''	1.82	0.60
1:0:542:A:C2'	1:0:543:G:H5'	2.32	0.60
1:0:1086:C:C2'	1:0:1087:C:H5''	2.29	0.60
1:0:108:G:H2'	1:0:109:A:C8	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2173:G:H2'	1:0:2174:G:O4'	2.01	0.60
1:0:2768:C:H1'	1:0:2784:A:N7	2.17	0.60
1:0:1184:G:H2'	1:0:1185:C:H5''	1.83	0.60
1:0:1782:A:H62	1:0:1820:G:H2'	1.67	0.60
1:0:2307:A:H2'	1:0:2308:A:C8	2.36	0.60
1:0:2429:A:OP1	1:0:2476:A:H2'	2.02	0.60
1:0:2691:C:C3'	1:0:2692:A:H5''	2.31	0.60
1:0:2029:G:H2'	1:0:2030:U:C6	2.36	0.59
1:0:2096:U:C2'	1:0:2097:A:H5''	2.28	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.31	0.59
1:0:411:C:OP1	1:0:2073:A:H1'	2.02	0.59
2:9:102:A:H2'	2:9:103:A:H5'	1.84	0.59
1:0:1517:C:H2'	1:0:1518:C:C6	2.37	0.59
1:0:1540:C:H2'	1:0:1541:G:O4'	2.02	0.59
1:0:2549:G:N2	1:0:2550:C:H1'	2.17	0.59
1:0:2736:U:O2'	1:0:2737:A:H5'	2.02	0.59
1:0:1067:G:H21	1:0:1115:C:N4	2.00	0.59
1:0:1312:G:H4'	1:0:1314:A:C4	2.37	0.59
1:0:2800:C:H2'	1:0:2801:A:O4'	2.02	0.59
1:0:1604:A:H2'	1:0:1605:A:O4'	2.02	0.59
1:0:1790:G:H4'	1:0:1791:C:C5	2.38	0.59
1:0:2083:G:H2'	1:0:2084:G:C8	2.37	0.59
1:0:2274:C:H2'	1:0:2275:U:C5'	2.32	0.59
1:0:761:G:O6	1:0:764:A:H4'	2.01	0.59
1:0:2119:A:O2'	1:0:2120:C:H5'	2.02	0.59
1:0:837:U:H1'	1:0:2337:A:N7	2.18	0.59
1:0:1055:A:OP1	1:0:1057:A:H5'	2.03	0.59
1:0:451:A:H2'	1:0:452:G:C8	2.38	0.59
1:0:1921:A:H2'	1:0:1922:U:H5''	1.83	0.59
1:0:681:A:C6	1:0:683:A:H2'	2.38	0.59
2:9:55:C:O5'	2:9:55:C:H6	1.85	0.59
1:0:1259:A:O2'	1:0:1260:A:H5'	2.03	0.59
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.59
1:0:2299:A:H5''	1:0:2300:G:O5'	2.02	0.59
1:0:2678:C:H2'	1:0:2679:G:C8	2.38	0.59
1:0:581:A:C2	1:0:582:G:H1'	2.38	0.59
2:9:78:A:H2'	2:9:79:U:C5	2.38	0.59
1:0:1245:G:H2'	1:0:1246:G:H8	1.67	0.59
1:0:1259:A:C2'	1:0:1260:A:H5'	2.32	0.59
1:0:1707:A:H2'	1:0:1708:C:H5'	1.85	0.59
1:0:2163:U:H2'	1:0:2164:G:C8	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:340:G:H1'	1:0:488:A:H1'	1.84	0.59
1:0:775:U:H4'	1:0:776:G:C8	2.38	0.59
1:0:973:U:H4'	1:0:2475:C:O2'	2.03	0.59
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.58
1:0:313:U:H2'	1:0:314:G:H8	1.68	0.58
1:0:646:C:O2	1:0:650:U:H4'	2.03	0.58
1:0:1644:G:O2'	1:0:1645:U:H5'	2.04	0.58
1:0:1679:U:C3'	1:0:1680:U:H5''	2.33	0.58
1:0:979:A:H2'	1:0:980:G:O4'	2.04	0.58
1:0:982:C:H4'	1:0:994:A:O2'	2.02	0.58
2:9:111:C:H5''	2:9:112:A:O5'	2.03	0.58
1:0:1065:A:H2'	1:0:1066:G:H8	1.68	0.58
1:0:1691:G:H21	1:0:1694:A:H61	1.51	0.58
1:0:1949:A:H1'	1:0:2572:U:H4'	1.86	0.58
1:0:462:G:H2'	1:0:463:C:H5''	1.83	0.58
1:0:66:U:H2'	1:0:67:G:C8	2.38	0.58
1:0:1252:C:O2'	1:0:1253:C:H5''	2.03	0.58
1:0:2492:G:H1	1:0:2550:C:H42	1.49	0.58
1:0:76:C:H6	1:0:76:C:H5'	1.68	0.58
1:0:1004:A:H2'	1:0:1005:U:C5'	2.32	0.58
1:0:1217:U:H2'	1:0:1218:C:C6	2.37	0.58
1:0:168:A:H2'	1:0:169:C:H6	1.68	0.58
1:0:2660:C:O2'	1:0:2661:G:H5'	2.04	0.58
1:0:425:A:H2'	1:0:426:C:O4'	2.02	0.58
1:0:705:C:H2'	1:0:706:A:H8	1.69	0.58
2:9:20:A:O2'	2:9:21:C:H5'	2.03	0.58
1:0:114:C:H2'	1:0:115:G:C8	2.39	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.03	0.58
1:0:1436:G:N2	1:0:1514:C:H1'	2.19	0.58
1:0:2466:G:H2'	1:0:2467:A:H8	1.67	0.58
1:0:2779:C:H2'	1:0:2780:A:C8	2.39	0.58
1:0:799:C:O2'	1:0:800:U:H5'	2.03	0.58
2:9:18:G:H2'	2:9:19:C:C6	2.38	0.58
1:0:1253:C:H2'	1:0:1254:G:O4'	2.03	0.58
1:0:1278:A:H4'	1:0:1279:G:O5'	2.04	0.58
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.58
1:0:1537:U:H2'	1:0:1538:A:C8	2.39	0.58
1:0:1975:G:N2	1:0:1978:U:H5	2.00	0.58
1:0:2053:G:H2'	1:0:2054:A:C8	2.39	0.58
1:0:2437:G:H2'	1:0:2469:G:H1	1.68	0.58
1:0:357:A:H3'	1:0:358:C:O4'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:595:A:H62	1:0:1264:C:H42	1.52	0.58
1:0:1336:G:H2'	1:0:1337:G:H5'	1.86	0.58
1:0:2470:U:H2'	1:0:2471:U:H6	1.68	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:616:U:C3'	1:0:617:U:H5''	2.34	0.58
1:0:1699:A:N6	1:0:1723:U:H3	2.02	0.58
1:0:1763:G:H2'	1:0:1764:A:C4'	2.34	0.58
1:0:1991:C:H2'	1:0:1992:G:H8	1.68	0.58
1:0:1994:U:H2'	1:0:1995:G:H5'	1.86	0.58
1:0:2318:U:H2'	1:0:2319:G:C8	2.36	0.58
1:0:312:G:OP1	1:0:312:G:H4'	2.03	0.58
1:0:1057:A:H3'	1:0:1058:G:H5''	1.85	0.58
1:0:1196:G:H2'	1:0:1197:U:O4'	2.04	0.58
1:0:2164:G:H2'	1:0:2165:A:H8	1.69	0.58
1:0:226:C:H4'	1:0:227:G:C8	2.38	0.58
1:0:487:G:H1'	1:0:515:A:C2	2.39	0.58
1:0:663:G:H2'	1:0:664:C:O4'	2.03	0.58
1:0:789:G:H21	1:0:806:A:H62	1.52	0.58
1:0:871:U:H1'	1:0:2248:A:H5''	1.85	0.58
1:0:1346:C:P	1:0:1346:C:H6	2.27	0.57
1:0:1791:C:H1'	1:0:1793:A:C5'	2.33	0.57
1:0:2194:A:H2'	1:0:2195:C:H5''	1.86	0.57
1:0:1281:A:H4'	1:0:2592:U:O2	2.04	0.57
1:0:459:A:H1'	1:0:461:A:H62	1.67	0.57
1:0:692:C:H2'	1:0:693:A:H8	1.69	0.57
1:0:770:U:O2'	1:0:771:C:H5'	2.03	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.04	0.57
1:0:1195:U:H2'	1:0:1196:G:H8	1.69	0.57
1:0:1333:G:C6	1:0:1342:U:H5'	2.38	0.57
1:0:1830:C:H42	1:0:1881:U:H3'	1.69	0.57
1:0:2020:G:H2'	1:0:2021:G:C8	2.39	0.57
1:0:2727:G:C2'	1:0:2728:A:H5''	2.34	0.57
1:0:2737:A:H2'	1:0:2738:A:H5'	1.85	0.57
1:0:2788:C:O2'	1:0:2789:U:H5'	2.04	0.57
1:0:1621:C:H2'	1:0:1622:G:O4'	2.05	0.57
1:0:1785:A:H2'	1:0:1786:C:C6	2.39	0.57
1:0:2390:A:H2'	1:0:2391:A:C8	2.39	0.57
1:0:2782:G:H3'	1:0:2783:U:H5''	1.86	0.57
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.57
1:0:1418:C:H2'	1:0:1419:G:H8	1.69	0.57
1:0:1480:G:C2'	1:0:1481:U:H5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1558:C:C2'	1:0:1559:G:H5'	2.34	0.57
1:0:1583:A:H8	1:0:1583:A:O5'	1.87	0.57
1:0:1816:G:O2'	1:0:1817:U:H5'	2.05	0.57
1:0:758:G:H2'	1:0:759:C:H5'	1.85	0.57
1:0:1313:U:C4	1:0:1651:U:H5'	2.40	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.04	0.57
1:0:2243:C:H2'	1:0:2244:C:O4'	2.04	0.57
1:0:2799:C:H2'	1:0:2800:C:O4'	2.04	0.57
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.57
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.57
1:0:958:G:H2'	1:0:959:C:C6	2.39	0.57
1:0:54:G:H2'	1:0:55:A:H8	1.70	0.57
1:0:941:U:H4'	1:0:941:U:OP1	2.04	0.57
1:0:1271:C:H2'	1:0:1272:G:H8	1.68	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.39	0.57
1:0:1736:C:H2'	1:0:1737:G:C8	2.39	0.57
1:0:185:C:O2'	1:0:186:C:H5'	2.04	0.57
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.57
1:0:2503:G:C2'	1:0:2504:G:H5''	2.34	0.57
1:0:2633:A:C2	1:0:2644:A:H5''	2.39	0.57
1:0:36:G:H1'	1:0:462:G:H21	1.69	0.57
1:0:659:G:H2'	1:0:660:G:C8	2.40	0.57
1:0:936:A:H2'	1:0:937:C:C6	2.40	0.57
1:0:1312:G:H4'	1:0:1314:A:N3	2.20	0.57
1:0:1729:C:H2'	1:0:1730:G:C8	2.40	0.57
1:0:2607:C:H3'	1:0:2608:A:H5'	1.86	0.57
1:0:2841:U:H1'	1:0:2843:A:C1'	2.35	0.57
1:0:1392:U:H2'	1:0:1393:G:H5'	1.87	0.57
1:0:2426:G:H22	1:0:2431:C:N4	2.03	0.57
1:0:2756:A:C6	1:0:2762:G:H1'	2.39	0.57
1:0:1727:C:H4'	1:0:2833:C:C2	2.40	0.57
2:9:102:A:OP2	2:9:102:A:H8	1.88	0.57
1:0:1311:C:H5'	1:0:1315:A:N6	2.20	0.56
1:0:1336:G:C2'	1:0:1337:G:H5'	2.35	0.56
1:0:1825:C:C2'	1:0:1826:U:H5'	2.35	0.56
1:0:1958:G:H2'	1:0:1959:U:H6	1.70	0.56
1:0:334:G:N3	1:0:344:G:H1'	2.20	0.56
1:0:929:A:O2'	2:9:101:A:H4'	2.05	0.56
1:0:195:A:N1	1:0:212:U:H4'	2.20	0.56
1:0:2769:C:H2'	1:0:2770:A:H5'	1.86	0.56
1:0:692:C:H2'	1:0:693:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:C2'	2:9:35:C:H5'	2.35	0.56
1:0:1039:A:H61	1:0:1136:G:H2'	1.70	0.56
1:0:1196:G:H2'	1:0:1197:U:H5'	1.86	0.56
1:0:128:C:H2'	1:0:129:A:C4'	2.35	0.56
1:0:1698:C:O2'	1:0:1753:A:H2'	2.06	0.56
1:0:2261:G:H5''	1:0:2262:C:O5'	2.04	0.56
1:0:2266:A:C2	1:0:2268:G:H1'	2.40	0.56
1:0:978:U:H2'	1:0:979:A:C8	2.40	0.56
1:0:1322:G:H21	1:0:1627:C:H5'	1.70	0.56
1:0:1441:A:N3	1:0:1441:A:H2'	2.21	0.56
1:0:1677:C:O2'	1:0:1678:G:H5'	2.04	0.56
1:0:2642:G:O2'	1:0:2643:G:H5'	2.05	0.56
1:0:572:G:OP2	1:0:581:A:H5'	2.06	0.56
1:0:585:U:H2'	1:0:586:G:C8	2.40	0.56
1:0:604:U:H2'	1:0:605:G:C8	2.40	0.56
2:9:93:G:H2'	2:9:94:G:C8	2.32	0.56
1:0:1182:U:C3'	1:0:1183:C:H5''	2.35	0.56
1:0:1763:G:H21	1:0:1765:C:H5''	1.71	0.56
1:0:1374:G:O2'	1:0:2193:C:H1'	2.05	0.56
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.56
1:0:2686:C:H2'	1:0:2687:G:H8	1.70	0.56
1:0:1313:U:H4'	1:0:1314:A:O5'	2.05	0.56
1:0:178:C:H2'	1:0:179:U:C6	2.40	0.56
1:0:2495:G:H2'	1:0:2496:C:O4'	2.05	0.56
1:0:308:C:H2'	1:0:309:G:O4'	2.05	0.56
1:0:452:G:H2'	1:0:453:U:O4'	2.06	0.56
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.56
1:0:831:G:C2'	1:0:832:A:H5''	2.36	0.56
2:9:34:C:H2'	2:9:35:C:O4'	2.05	0.56
1:0:1095:A:H2'	1:0:1096:A:O4'	2.06	0.56
1:0:12:U:H2'	1:0:13:A:O4'	2.06	0.56
1:0:1356:G:H5''	1:0:1614:C:OP2	2.05	0.56
1:0:1430:G:H22	1:0:1599:G:H1'	1.71	0.56
1:0:1683:G:C2'	1:0:1684:G:H5'	2.35	0.56
1:0:1826:U:O2'	1:0:1952:A:H2'	2.05	0.56
1:0:653:G:H2'	1:0:654:A:H4'	1.86	0.56
1:0:847:C:H2'	1:0:848:A:C8	2.40	0.56
1:0:1288:A:H62	1:0:1309:G:C4'	2.19	0.56
1:0:1300:A:C2	1:0:1666:G:H4'	2.41	0.56
1:0:1333:G:N2	1:0:1344:C:H41	2.04	0.56
1:0:1770:U:H5''	1:0:1771:A:H4'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:G:HO2'	1:0:1791:C:H5	1.52	0.56
1:0:2105:U:H2'	1:0:2106:G:C8	2.41	0.56
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.56
1:0:777:A:H62	1:0:1767:G:H1'	1.70	0.56
2:9:59:A:H2'	2:9:60:A:H5'	1.87	0.56
2:9:62:C:C4	2:9:63:A:N7	2.74	0.56
1:0:191:G:O2'	1:0:192:G:H5'	2.06	0.56
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.56
1:0:24:G:H2'	1:0:25:U:C6	2.40	0.56
1:0:346:C:O2'	1:0:347:C:H5'	2.05	0.56
1:0:746:G:O6	1:0:774:A:H2'	2.05	0.56
1:0:931:G:O2'	1:0:932:G:H5'	2.06	0.56
1:0:1162:A:H2'	1:0:1163:C:O4'	2.06	0.56
1:0:1312:G:H5''	1:0:1313:U:H5'	1.86	0.56
1:0:1594:U:H2'	1:0:1595:A:H8	1.71	0.56
1:0:1843:U:H2'	1:0:1844:C:C6	2.41	0.56
1:0:1953:A:H1'	1:0:1955:G:H1'	1.87	0.56
1:0:2080:U:H2'	1:0:2081:U:C6	2.41	0.56
1:0:2475:C:H2'	1:0:2476:A:O4'	2.06	0.56
1:0:2678:C:H2'	1:0:2679:G:H8	1.69	0.56
1:0:719:A:H2'	1:0:720:A:O4'	2.06	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1245:G:H2'	1:0:1246:G:C8	2.40	0.56
1:0:1439:G:N2	1:0:1590:C:H42	2.04	0.56
1:0:1467:U:H3'	1:0:1468:A:H5'	1.88	0.56
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.56
1:0:1865:C:H2'	1:0:1866:G:O4'	2.06	0.56
1:0:2210:C:H2'	1:0:2211:U:O4'	2.06	0.56
1:0:2870:C:H2'	1:0:2871:U:H6	1.71	0.56
1:0:337:G:H2'	1:0:338:G:H8	1.71	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.06	0.56
1:0:738:G:H2'	1:0:739:G:O4'	2.06	0.56
1:0:871:U:H1'	1:0:2248:A:C5'	2.36	0.56
2:9:101:A:H2'	2:9:102:A:C8	2.41	0.56
2:9:17:A:H1'	2:9:112:A:C8	2.40	0.56
1:0:1021:A:H1'	1:0:1164:C:H1'	1.88	0.55
1:0:1226:A:C2	1:0:1250:A:H1'	2.41	0.55
1:0:1333:G:HO2'	1:0:1334:A:H8	1.52	0.55
1:0:1348:C:H2'	1:0:1349:A:H8	1.68	0.55
1:0:1949:A:H1'	1:0:2572:U:C4'	2.36	0.55
1:0:2811:G:H2'	1:0:2812:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1010:U:H2'	1:0:1011:A:C8	2.41	0.55
1:0:868:U:H2'	1:0:869:C:C6	2.41	0.55
2:9:32:C:H4'	2:9:60:A:H2	1.70	0.55
1:0:1038:U:H2'	1:0:1039:A:H8	1.70	0.55
1:0:10:A:H2'	1:0:11:G:C8	2.42	0.55
1:0:1764:A:C2'	1:0:1765:C:H5'	2.36	0.55
1:0:1785:A:H2'	1:0:1786:C:H6	1.71	0.55
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.55
1:0:2052:G:O2'	1:0:2053:G:H5'	2.07	0.55
1:0:216:U:H2'	1:0:217:U:O4'	2.06	0.55
1:0:2618:A:C6	1:0:2619:G:H1'	2.41	0.55
1:0:2803:C:O2'	1:0:2804:G:H5'	2.06	0.55
1:0:153:A:H2'	1:0:154:U:C6	2.41	0.55
1:0:1966:C:C4'	1:0:2585:C:H4'	2.15	0.55
1:0:826:U:O2'	1:0:1238:A:H1'	2.06	0.55
1:0:929:A:H3'	1:0:930:A:C5'	2.30	0.55
1:0:1164:C:H2'	1:0:1165:G:O4'	2.07	0.55
1:0:1436:G:H2'	1:0:1437:A:C8	2.42	0.55
1:0:1782:A:N6	1:0:1820:G:H2'	2.21	0.55
1:0:687:G:O2'	1:0:688:A:H5'	2.06	0.55
1:0:839:U:C4	1:0:841:G:H1'	2.42	0.55
1:0:843:G:O2'	1:0:844:G:OP1	2.20	0.55
1:0:990:A:H3'	1:0:991:A:C5'	2.37	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.71	0.55
1:0:831:G:H2'	1:0:832:A:H5''	1.87	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.37	0.55
1:0:1821:A:H3'	1:0:1822:C:H6	1.72	0.55
1:0:2404:A:P	1:0:2406:C:H5'	2.47	0.55
1:0:243:G:H2'	1:0:244:C:O4'	2.07	0.55
1:0:2636:A:H62	1:0:2643:G:N2	1.99	0.55
1:0:2276:C:O2'	1:0:2277:A:H5'	2.05	0.55
1:0:677:G:H4'	1:0:952:A:P	2.46	0.55
1:0:820:U:H2'	1:0:821:A:C8	2.41	0.55
1:0:2642:G:H2'	1:0:2643:G:O4'	2.05	0.55
1:0:2770:A:H4'	1:0:2867:G:N2	2.21	0.55
1:0:38:G:H1	1:0:453:U:H3	1.53	0.55
1:0:824:U:H2'	1:0:825:C:H5''	1.89	0.55
1:0:162:C:H2'	1:0:163:A:H8	1.69	0.55
1:0:192:G:C1'	1:0:193:A:H4'	2.37	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.88	0.55
1:0:330:C:C2'	1:0:331:U:H5'	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:514:G:N3	1:0:514:G:H2'	2.22	0.55
1:0:591:G:H2'	1:0:592:G:H8	1.71	0.55
2:9:42:U:H2'	2:9:45:C:N4	2.16	0.55
1:0:1040:A:C2'	1:0:1041:G:H5'	2.36	0.54
1:0:1101:U:N3	1:0:1113:C:H1'	2.23	0.54
1:0:1251:G:H2'	1:0:1252:C:O4'	2.07	0.54
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.54
1:0:1500:U:H3	1:0:1520:G:H22	1.55	0.54
1:0:1861:G:O2'	1:0:1862:C:H5'	2.07	0.54
1:0:2083:G:H2'	1:0:2084:G:H8	1.73	0.54
1:0:213:C:H42	1:0:238:G:H1	1.54	0.54
1:0:2195:C:H2'	1:0:2196:U:H5'	1.87	0.54
1:0:225:G:C5'	1:0:226:C:H5'	2.37	0.54
1:0:2544:A:H2'	1:0:2545:A:H1'	1.89	0.54
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.54
1:0:437:G:O2'	1:0:438:G:H5'	2.06	0.54
1:0:932:G:H2'	1:0:933:G:C8	2.42	0.54
1:0:929:A:HO2'	2:9:101:A:H4'	1.73	0.54
1:0:1116:U:H2'	1:0:1117:G:C8	2.42	0.54
1:0:1312:G:H5''	1:0:1313:U:H5''	1.88	0.54
1:0:785:U:H5'	1:0:1368:G:O2'	2.07	0.54
1:0:174:A:H4'	1:0:2051:U:H2'	1.89	0.54
1:0:2058:U:H4'	1:0:2575:U:O2	2.08	0.54
1:0:2315:A:HO2'	1:0:2364:C:H5''	1.72	0.54
1:0:2408:G:H3'	1:0:2409:A:C5'	2.37	0.54
1:0:2478:C:H2'	1:0:2479:U:H5'	1.90	0.54
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.54
1:0:2855:C:O2'	1:0:2856:U:H5'	2.07	0.54
1:0:1065:A:H2'	1:0:1066:G:C8	2.42	0.54
1:0:1250:A:O2'	1:0:1251:G:H4'	2.07	0.54
1:0:1291:G:O2'	1:0:1292:A:H5'	2.07	0.54
1:0:1531:C:H2'	1:0:1532:A:H5'	1.89	0.54
1:0:1837:G:H2'	1:0:1838:G:C8	2.42	0.54
1:0:2369:U:H2'	1:0:2370:G:C8	2.43	0.54
1:0:536:A:C2	1:0:2605:C:H1'	2.42	0.54
1:0:2633:A:H61	1:0:2646:C:H42	1.55	0.54
1:0:2756:A:N6	1:0:2762:G:H1'	2.22	0.54
1:0:964:A:H2'	1:0:965:G:C8	2.40	0.54
1:0:1124:U:H2'	1:0:1125:G:H8	1.73	0.54
1:0:36:G:C1'	1:0:462:G:H21	2.20	0.54
1:0:575:U:H2'	1:0:576:A:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:790:A:O2'	1:0:791:G:H5'	2.06	0.54
2:9:62:C:N3	2:9:63:A:N7	2.55	0.54
2:9:71:G:N2	2:9:72:C:C1'	2.70	0.54
1:0:1125:G:O2'	1:0:1126:A:H5'	2.07	0.54
1:0:1242:A:H2'	1:0:1243:G:H8	1.72	0.54
1:0:2535:C:H2'	1:0:2536:G:O4'	2.08	0.54
1:0:671:A:H2'	1:0:672:C:C6	2.43	0.54
1:0:804:C:O2	1:0:807:A:H5'	2.08	0.54
1:0:1451:C:H2'	1:0:1452:U:C6	2.43	0.54
1:0:1685:A:H1'	1:0:1686:A:C2	2.43	0.54
1:0:1998:A:H2'	1:0:1999:U:H5'	1.88	0.54
1:0:2447:G:N2	1:0:2460:G:H2'	2.20	0.54
1:0:2618:A:C2	1:0:2619:G:H1'	2.43	0.54
1:0:2759:U:H6	1:0:2759:U:O5'	1.90	0.54
1:0:338:G:O2'	1:0:339:U:H5'	2.08	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.07	0.54
1:0:577:U:H2'	1:0:579:G:OP2	2.08	0.54
1:0:659:G:H2'	1:0:660:G:H8	1.72	0.54
1:0:1374:G:N2	1:0:1384:G:H1'	2.23	0.54
1:0:1672:A:C2	1:0:1673:C:H1'	2.43	0.54
1:0:1854:G:H2'	1:0:1855:G:H8	1.72	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.08	0.54
1:0:504:G:O2'	1:0:505:G:H5'	2.08	0.54
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.54
1:0:2034:A:N6	1:0:2593:A:H62	2.06	0.54
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.54
1:0:616:U:H2'	1:0:617:U:C5'	2.34	0.54
1:0:1392:U:C2'	1:0:1393:G:H5'	2.38	0.54
1:0:1482:U:H2'	1:0:1483:G:H8	1.73	0.54
1:0:2562:G:H2'	1:0:2563:U:O4'	2.08	0.54
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.54
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.53
1:0:1602:G:O3'	1:0:1603:A:H8	1.91	0.53
1:0:968:C:N4	1:0:970:A:H1'	2.24	0.53
1:0:1962:C:O2'	1:0:1963:G:H5'	2.07	0.53
1:0:2487:G:O3'	1:0:2534:U:H5'	2.07	0.53
1:0:2640:G:H2'	1:0:2641:A:C8	2.44	0.53
1:0:2041:A:N6	32:0:2881:773:C14	2.38	0.53
1:0:584:A:O2'	1:0:585:U:H5'	2.07	0.53
1:0:153:A:H2'	1:0:154:U:C5	2.44	0.53
1:0:1669:A:N6	1:0:1670:G:H21	2.05	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2321:C:C2'	1:0:2322:U:H5'	2.38	0.53
1:0:242:A:O2'	1:0:243:G:O4'	2.27	0.53
1:0:215:G:N2	1:0:632:A:H8	2.04	0.53
1:0:635:C:C2'	1:0:636:G:H5''	2.36	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:139:A:H2'	1:0:140:G:C8	2.43	0.53
1:0:1739:G:H2'	1:0:1740:G:H8	1.74	0.53
1:0:1748:U:N3	1:0:1753:A:H2	2.01	0.53
1:0:1915:A:H2'	1:0:1916:G:O4'	2.09	0.53
1:0:1684:G:H2'	1:0:1974:U:O4	2.07	0.53
1:0:2395:C:C2'	1:0:2396:C:H5''	2.39	0.53
1:0:239:A:C2	1:0:443:A:H1'	2.43	0.53
1:0:94:C:H2'	1:0:95:G:O4'	2.09	0.53
1:0:1337:G:H1'	1:0:1632:A:N6	2.24	0.53
1:0:1683:G:H2'	1:0:1684:G:H5'	1.90	0.53
1:0:2343:C:H2'	1:0:2344:G:O4'	2.09	0.53
1:0:202:A:O2'	1:0:234:C:H4'	2.09	0.53
1:0:2546:G:H2'	1:0:2547:C:C6	2.43	0.53
1:0:2607:C:H3'	1:0:2608:A:C5'	2.38	0.53
1:0:66:U:H2'	1:0:67:G:H8	1.73	0.53
1:0:1196:G:H2'	1:0:1197:U:C4'	2.38	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53
1:0:159:A:O2'	1:0:160:C:H5'	2.08	0.53
1:0:1871:G:N3	1:0:1871:G:H2'	2.24	0.53
1:0:2026:C:H2'	1:0:2027:C:H6	1.73	0.53
1:0:1137:A:H5''	1:0:1138:A:OP1	2.09	0.53
1:0:1196:G:H2'	1:0:1197:U:C5'	2.38	0.53
1:0:13:A:H1'	1:0:536:A:H62	1.72	0.53
1:0:2035:G:H2'	1:0:2036:G:H8	1.73	0.53
1:0:2461:G:H2'	1:0:2462:C:O4'	2.08	0.53
1:0:2634:G:H2'	1:0:2643:G:O6	2.09	0.53
1:0:651:C:C3'	1:0:652:C:H5''	2.39	0.53
1:0:1323:G:H1'	1:0:1627:C:C5'	2.39	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
1:0:1999:U:H2'	1:0:2000:U:O4'	2.08	0.53
1:0:15:G:N2	1:0:2027:C:O2'	2.41	0.53
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.53
2:9:85:G:C2'	2:9:86:A:H5'	2.38	0.53
1:0:1418:C:H2'	1:0:1419:G:C8	2.43	0.53
1:0:1741:G:O2'	1:0:1742:G:H5'	2.09	0.53
1:0:1823:G:H2'	1:0:1824:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1943:A:C2'	1:0:1944:C:H5'	2.39	0.53
1:0:2038:C:H5'	1:0:2039:G:H5''	1.91	0.53
1:0:2324:G:C4'	1:0:2326:C:H5''	2.37	0.53
1:0:2383:C:H2'	1:0:2384:G:O4'	2.09	0.53
1:0:2733:A:O2'	1:0:2734:U:H5'	2.09	0.53
1:0:1102:G:H2'	1:0:1103:C:H6	1.74	0.53
1:0:1380:C:C2'	1:0:1381:G:H5'	2.39	0.53
1:0:1459:U:O5'	1:0:1459:U:H6	1.91	0.53
1:0:1514:C:H5'	1:0:1593:C:H5''	1.91	0.53
1:0:1429:A:N6	1:0:1601:U:H5''	2.23	0.53
1:0:1811:A:O2'	1:0:1812:U:H5''	2.09	0.53
1:0:1830:C:N4	1:0:1881:U:H3'	2.24	0.53
1:0:1917:C:H2'	1:0:1918:G:O4'	2.09	0.53
1:0:1872:A:H1'	1:0:2070:G:H5'	1.90	0.53
1:0:2662:C:H42	1:0:2707:G:H21	1.56	0.53
1:0:477:A:H2'	1:0:478:G:H5'	1.92	0.53
1:0:1558:C:H2'	1:0:1559:G:H5'	1.90	0.52
1:0:193:A:H2'	1:0:194:G:O4'	2.09	0.52
1:0:2026:C:H2'	1:0:2027:C:C6	2.45	0.52
1:0:2377:U:H2'	1:0:2378:G:H8	1.74	0.52
1:0:2407:G:H5'	1:0:2408:G:C2	2.44	0.52
1:0:294:U:H2'	1:0:295:C:C6	2.44	0.52
1:0:726:G:H2'	1:0:727:U:O4'	2.08	0.52
2:9:23:G:C6	2:9:24:U:C4	2.98	0.52
1:0:1571:G:OP2	1:0:1571:G:H3'	2.08	0.52
1:0:1814:G:H2'	1:0:1815:G:C8	2.45	0.52
1:0:1886:G:H2'	1:0:1887:G:C8	2.36	0.52
1:0:2021:G:H2'	1:0:2022:C:C6	2.43	0.52
1:0:2617:G:HO2'	1:0:2618:A:H8	1.54	0.52
1:0:2627:G:H2'	1:0:2628:C:O4'	2.10	0.52
1:0:76:C:H2'	1:0:77:C:C6	2.43	0.52
1:0:852:U:H6	1:0:852:U:O5'	1.92	0.52
1:0:932:G:H2'	1:0:933:G:O4'	2.08	0.52
1:0:876:A:H4'	2:9:103:A:N3	2.24	0.52
2:9:72:C:H2'	2:9:73:C:O4'	2.10	0.52
1:0:1313:U:H5'	1:0:1314:A:N3	2.25	0.52
1:0:1371:G:H1'	1:0:1386:A:H62	1.74	0.52
1:0:246:C:H42	1:0:247:A:H62	1.56	0.52
1:0:9:U:H3	1:0:2608:A:H62	1.57	0.52
1:0:2825:A:H2'	1:0:2826:C:C6	2.45	0.52
1:0:543:G:H2'	1:0:544:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1166:A:C3'	1:0:1167:A:H5''	2.40	0.52
1:0:1680:U:O2'	1:0:1681:A:H5''	2.09	0.52
1:0:1994:U:C2'	1:0:1995:G:H5'	2.40	0.52
1:0:2633:A:N6	1:0:2646:C:N4	2.55	0.52
1:0:1316:G:OP2	1:0:1316:G:H8	1.93	0.52
1:0:1835:C:H2'	1:0:1836:C:C6	2.45	0.52
1:0:2327:U:H2'	1:0:2328:G:H8	1.74	0.52
1:0:2363:G:H5''	1:0:2365:U:OP1	2.10	0.52
1:0:837:U:H2'	1:0:838:A:C8	2.45	0.52
2:9:41:A:H8	2:9:41:A:O5'	1.93	0.52
1:0:10:A:H2'	1:0:11:G:H8	1.74	0.52
1:0:1204:G:H2'	1:0:1205:G:H8	1.74	0.52
1:0:1661:C:H2'	1:0:1662:G:C8	2.44	0.52
1:0:956:A:C6	1:0:2427:A:H1'	2.45	0.52
1:0:482:A:O2'	1:0:483:A:H5'	2.10	0.52
1:0:887:G:O2'	1:0:888:G:H5'	2.10	0.52
1:0:93:A:O2'	1:0:94:C:H5'	2.09	0.52
1:0:8:A:H2'	1:0:9:U:C6	2.44	0.52
1:0:1556:A:H2'	1:0:1557:G:H8	1.75	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:2633:A:H4'	1:0:2634:G:O5'	2.09	0.52
1:0:2756:A:H4'	1:0:2758:A:OP1	2.09	0.52
1:0:5:A:H2'	1:0:6:A:C8	2.43	0.52
1:0:758:G:O2'	1:0:761:G:H1'	2.10	0.52
1:0:152:G:H2'	1:0:153:A:O4'	2.09	0.52
1:0:2035:G:H2'	1:0:2036:G:C8	2.44	0.52
1:0:2169:A:O2'	1:0:2170:C:H5'	2.10	0.52
1:0:929:A:H8	1:0:2247:A:H61	1.56	0.52
1:0:2324:G:N2	1:0:2361:G:C4	2.78	0.52
1:0:2487:G:H2'	1:0:2488:G:H8	1.74	0.52
1:0:847:C:H2'	1:0:848:A:H8	1.73	0.52
1:0:1036:G:H1'	1:0:1145:C:O4'	2.09	0.52
1:0:1288:A:H62	1:0:1309:G:H4'	1.75	0.52
1:0:2169:A:C2'	1:0:2170:C:H5'	2.40	0.52
1:0:2560:G:N3	1:0:2560:G:H3'	2.25	0.52
1:0:2599:U:H2'	1:0:2600:A:C5'	2.33	0.52
1:0:2705:A:O2'	1:0:2706:U:C6	2.60	0.52
1:0:1039:A:N6	1:0:1136:G:H2'	2.25	0.52
1:0:1491:C:H2'	1:0:1492:A:H8	1.75	0.52
1:0:1912:G:H3'	1:0:1912:G:N3	2.25	0.52
1:0:579:G:H2'	1:0:2013:A:N7	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:202:A:C2	1:0:203:G:H1'	2.45	0.52
1:0:2324:G:N3	1:0:2326:C:H5	2.08	0.52
1:0:2394:G:H2'	1:0:2395:C:C6	2.45	0.52
1:0:2809:A:O2'	1:0:2810:A:H5'	2.10	0.52
1:0:474:G:N2	1:0:476:G:H3'	2.24	0.52
1:0:608:G:H2'	1:0:609:U:C6	2.45	0.52
1:0:1083:C:H42	1:0:1103:C:H41	1.56	0.51
1:0:1151:U:H5''	1:0:1153:A:OP1	2.10	0.51
1:0:1272:G:H2'	1:0:1273:G:H8	1.76	0.51
1:0:1416:A:O2'	1:0:1417:C:H5'	2.10	0.51
1:0:1996:A:O2'	1:0:1997:A:H5'	2.09	0.51
1:0:2265:A:H5''	1:0:2266:A:O4'	2.10	0.51
1:0:35:G:O4'	1:0:466:A:H1'	2.10	0.51
1:0:362:C:C4	1:0:363:G:H1'	2.45	0.51
1:0:389:G:H2'	1:0:390:U:C6	2.44	0.51
1:0:41:G:H2'	1:0:42:G:H8	1.75	0.51
1:0:1485:U:H2'	1:0:1486:A:C8	2.45	0.51
1:0:1843:U:H2'	1:0:1844:C:H6	1.74	0.51
1:0:2353:G:H2'	1:0:2354:G:C8	2.46	0.51
1:0:764:A:C2	1:0:802:A:C2	2.98	0.51
1:0:922:A:H62	13:K:17:ARG:CA	2.24	0.51
1:0:978:U:H2'	1:0:979:A:H8	1.76	0.51
2:9:116:C:H2'	2:9:117:G:O4'	2.10	0.51
1:0:1293:A:O2'	1:0:1294:G:H5'	2.10	0.51
1:0:1621:C:H4'	1:0:1626:A:N6	2.24	0.51
1:0:2541:U:H2'	1:0:2542:U:O4'	2.10	0.51
1:0:604:U:H2'	1:0:605:G:H8	1.74	0.51
1:0:1662:G:H5''	1:0:1663:C:O4'	2.11	0.51
1:0:1944:C:H2'	1:0:1945:C:O4'	2.10	0.51
1:0:2717:G:H2'	1:0:2718:A:H8	1.75	0.51
1:0:782:U:H2'	1:0:783:G:H8	1.72	0.51
1:0:95:G:H2'	1:0:96:C:C6	2.46	0.51
1:0:1010:U:H2'	1:0:1011:A:H8	1.76	0.51
1:0:119:G:H1'	1:0:129:A:C2	2.45	0.51
1:0:984:A:H2	1:0:1200:G:H1	1.57	0.51
1:0:15:G:H2'	1:0:16:G:H5'	1.93	0.51
1:0:2301:A:H2'	1:0:2302:G:O4'	2.11	0.51
1:0:300:C:H2'	1:0:301:C:H5'	1.92	0.51
1:0:430:C:H2'	1:0:431:G:C8	2.45	0.51
1:0:484:G:O2'	1:0:485:G:H5'	2.11	0.51
2:9:78:A:H2'	2:9:79:U:H6	1.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:1579:G:H2'	1:0:1580:C:C6	2.45	0.51
1:0:2503:G:C3'	1:0:2504:G:H5''	2.40	0.51
1:0:2613:A:O2'	1:0:2614:A:H5'	2.10	0.51
1:0:2633:A:H5'	1:0:2635:U:O4'	2.11	0.51
1:0:2658:A:O2'	1:0:2659:C:H5'	2.11	0.51
1:0:678:G:O2'	1:0:679:C:H5'	2.11	0.51
1:0:706:A:H2'	1:0:707:U:C6	2.46	0.51
1:0:773:G:C2'	1:0:774:A:H5'	2.41	0.51
1:0:830:C:H2'	1:0:831:G:H8	1.76	0.51
1:0:837:U:H2'	1:0:838:A:O4'	2.10	0.51
1:0:859:U:H4'	1:0:860:U:C5	2.46	0.51
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.51
1:0:1540:C:O2'	1:0:1541:G:H5'	2.10	0.51
1:0:1714:A:H3'	1:0:1715:A:C8	2.45	0.51
1:0:1818:G:H2'	1:0:1819:U:C6	2.46	0.51
1:0:1856:U:H2'	1:0:1857:G:O4'	2.11	0.51
1:0:2490:U:H2'	1:0:2491:C:H6	1.76	0.51
1:0:583:C:O2'	1:0:584:A:OP2	2.27	0.51
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:931:G:C2'	1:0:932:G:H5'	2.40	0.51
2:9:42:U:C2	2:9:45:C:C5	2.99	0.51
1:0:1218:C:H2'	1:0:1219:C:O4'	2.10	0.51
1:0:781:G:H5'	1:0:1638:G:H4'	1.93	0.51
1:0:174:A:C2	1:0:2413:A:N6	2.79	0.51
1:0:29:U:H2'	1:0:30:G:C8	2.46	0.51
1:0:800:U:H3'	1:0:804:C:H41	1.74	0.51
1:0:1227:A:H4'	1:0:1252:C:H4'	1.93	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.45	0.51
1:0:1590:C:H6	1:0:1590:C:O5'	1.94	0.51
1:0:1611:U:H2'	1:0:1612:U:O4'	2.10	0.51
1:0:1790:G:C8	1:0:1811:A:N6	2.79	0.51
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.51
1:0:2076:G:H2'	1:0:2077:G:C8	2.46	0.51
1:0:952:A:O2'	1:0:1204:G:H4'	2.11	0.51
2:9:26:G:N7	2:9:58:G:C4	2.78	0.51
2:9:6:C:H2'	2:9:7:C:H6	1.72	0.51
2:9:71:G:C2'	2:9:72:C:H5'	2.41	0.51
1:0:1000:G:P	1:0:1168:G:H4'	2.51	0.51
1:0:1457:A:O2'	1:0:1458:A:H5'	2.11	0.51
1:0:1592:U:O5'	1:0:1592:U:H6	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2246:A:H2'	1:0:2246:A:N3	2.26	0.51
1:0:2870:C:H2'	1:0:2871:U:C6	2.46	0.51
1:0:37:C:H4'	1:0:463:C:OP1	2.11	0.51
1:0:612:G:H4'	1:0:613:A:O2'	2.10	0.51
1:0:765:C:O2'	1:0:766:A:O4'	2.29	0.51
1:0:754:G:N2	1:0:770:U:H1'	2.26	0.51
1:0:789:G:H4'	1:0:790:A:C8	2.46	0.51
2:9:4:C:H2'	2:9:5:C:C5	2.43	0.51
1:0:1066:G:H3'	1:0:1067:G:H5''	1.93	0.50
1:0:1132:C:H2'	1:0:1133:G:O4'	2.10	0.50
1:0:1179:A:H2'	1:0:1180:A:C8	2.45	0.50
1:0:2565:C:O2'	1:0:2566:A:H5'	2.11	0.50
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:685:U:O2'	1:0:686:C:H5'	2.11	0.50
1:0:1226:A:H2'	1:0:1227:A:C8	2.46	0.50
1:0:2422:C:H2'	1:0:2423:G:C8	2.46	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
2:9:50:U:H2'	2:9:51:G:C8	2.45	0.50
1:0:2160:C:H2'	1:0:2161:C:C6	2.47	0.50
1:0:2487:G:H2'	1:0:2488:G:C8	2.47	0.50
1:0:2751:C:H2'	1:0:2752:C:H6	1.75	0.50
1:0:2772:U:O2'	1:0:2773:G:H5'	2.11	0.50
1:0:322:A:H2'	1:0:322:A:N3	2.26	0.50
1:0:357:A:C2'	1:0:358:C:H5'	2.37	0.50
1:0:636:G:H2'	1:0:637:G:H5'	1.94	0.50
1:0:1411:C:H2'	1:0:1412:C:H6	1.75	0.50
1:0:1625:A:C8	1:0:1632:A:H1'	2.46	0.50
1:0:2104:G:H2'	1:0:2105:U:C6	2.47	0.50
1:0:2238:G:H1'	1:0:2406:C:C2	2.46	0.50
1:0:2770:A:C5'	1:0:2867:G:H22	2.25	0.50
1:0:502:A:H2'	1:0:503:G:H5'	1.93	0.50
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.50
1:0:1101:U:H3	1:0:1113:C:H1'	1.77	0.50
1:0:1572:C:H2'	1:0:1573:G:C5'	2.42	0.50
1:0:1624:A:H2'	1:0:1625:A:H5'	1.94	0.50
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.50
1:0:2458:U:OP1	1:0:2516:U:H1'	2.11	0.50
1:0:2546:G:H2'	1:0:2547:C:H6	1.76	0.50
1:0:2651:U:O2'	1:0:2652:G:H5'	2.12	0.50
1:0:630:G:H8	1:0:630:G:O5'	1.94	0.50
1:0:860:U:O2	1:0:860:U:H2'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:111:C:H5''	2:9:112:A:H4'	1.93	0.50
1:0:1090:C:O2'	1:0:1091:C:H5'	2.11	0.50
1:0:1411:C:H2'	1:0:1412:C:C6	2.47	0.50
1:0:2559:U:H2'	1:0:2560:G:H5'	1.94	0.50
1:0:2717:G:H2'	1:0:2718:A:C8	2.46	0.50
1:0:923:A:N3	1:0:923:A:H2'	2.26	0.50
2:9:29:C:H2'	2:9:30:C:C5	2.45	0.50
1:0:1287:A:N1	1:0:1661:C:O2'	2.40	0.50
1:0:1313:U:H4'	1:0:1314:A:O4'	2.11	0.50
1:0:1430:G:H2'	1:0:1431:U:C6	2.47	0.50
1:0:14:A:C2	1:0:2604:G:O2'	2.65	0.50
1:0:1514:C:H2'	1:0:1515:U:O4'	2.11	0.50
1:0:1594:U:H2'	1:0:1595:A:C8	2.47	0.50
1:0:2341:G:O2'	1:0:2342:U:H5'	2.12	0.50
1:0:2609:G:N2	1:0:2866:A:H2	2.09	0.50
1:0:41:G:O2'	1:0:42:G:H5'	2.12	0.50
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.50
1:0:597:U:H2'	1:0:598:U:C6	2.46	0.50
1:0:697:G:H1	1:0:807:A:H2	1.55	0.50
1:0:788:G:H5''	1:0:790:A:H1'	1.94	0.50
1:0:1026:U:H2'	1:0:1027:C:C6	2.47	0.50
1:0:1038:U:N3	1:0:2467:A:H5'	2.25	0.50
1:0:1199:U:H3'	1:0:1200:G:H5''	1.93	0.50
1:0:1229:C:H2'	1:0:1230:C:H6	1.77	0.50
1:0:1429:A:H1'	1:0:1603:A:C6	2.46	0.50
1:0:1440:G:H3'	1:0:1441:A:C5'	2.41	0.50
1:0:221:A:H2'	1:0:222:G:H5'	1.94	0.50
1:0:509:U:H3	1:0:513:A:N6	2.09	0.50
1:0:73:A:H5''	1:0:73:A:N3	2.26	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:18:U:O2'	1:0:563:U:H5''	2.12	0.50
1:0:1982:C:H5''	1:0:2703:C:O2'	2.12	0.50
1:0:2170:C:H2'	1:0:2171:U:O4'	2.12	0.50
1:0:75:C:H2'	1:0:76:C:C5'	2.33	0.50
1:0:813:A:O2'	1:0:815:A:H5'	2.12	0.50
2:9:105:G:C2	2:9:106:U:C4	2.99	0.50
1:0:1353:A:H5''	1:0:1354:A:N7	2.26	0.49
1:0:1399:C:H2'	1:0:1400:A:C8	2.47	0.49
1:0:1872:A:H2'	1:0:1873:A:H8	1.77	0.49
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.49
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:337:G:H2'	1:0:338:G:C8	2.47	0.49
1:0:611:C:O2'	1:0:614:G:H5''	2.12	0.49
1:0:820:U:H1'	1:0:2424:G:OP1	2.12	0.49
1:0:1058:G:H2'	1:0:1121:G:H1	1.77	0.49
1:0:1315:A:H5''	1:0:1316:G:OP1	2.11	0.49
1:0:2028:C:O2'	1:0:2029:G:H5'	2.12	0.49
1:0:2195:C:C2'	1:0:2196:U:H5'	2.42	0.49
1:0:2230:G:H1'	1:0:2429:A:O4'	2.12	0.49
1:0:2544:A:H5''	1:0:2545:A:OP2	2.12	0.49
1:0:2608:A:O2'	1:0:2609:G:H5'	2.11	0.49
1:0:1001:A:C3'	1:0:1002:C:H5''	2.42	0.49
1:0:1310:C:OP1	1:0:2689:C:H4'	2.11	0.49
1:0:2680:U:H3'	1:0:2681:A:H5'	1.95	0.49
1:0:2733:A:H2'	1:0:2734:U:O4'	2.11	0.49
1:0:329:C:O2'	1:0:330:C:H5'	2.11	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:541:C:N4	1:0:572:G:H8	2.06	0.49
2:9:104:A:C2	2:9:105:G:H1'	2.47	0.49
1:0:1807:A:H1'	1:0:1809:G:N7	2.26	0.49
1:0:2212:U:H2'	1:0:2213:G:C8	2.47	0.49
1:0:2395:C:H2'	1:0:2396:C:C5'	2.43	0.49
1:0:2599:U:H3'	1:0:2600:A:H5''	1.93	0.49
1:0:2764:U:H2'	1:0:2765:C:H6	1.75	0.49
1:0:751:G:H1'	1:0:772:G:N2	2.28	0.49
2:9:111:C:H5''	2:9:112:A:C5'	2.42	0.49
1:0:1073:G:H2'	1:0:1074:G:C4'	2.29	0.49
1:0:1345:G:H5''	1:0:1346:C:OP1	2.12	0.49
1:0:1534:A:O2'	1:0:1535:C:H5'	2.12	0.49
1:0:1703:C:H2'	1:0:1704:G:O4'	2.12	0.49
1:0:1979:C:H6	1:0:1979:C:OP1	1.95	0.49
1:0:212:U:O2'	1:0:213:C:H5'	2.13	0.49
1:0:2196:U:H2'	1:0:2197:U:C6	2.47	0.49
1:0:242:A:N6	1:0:441:A:N7	2.60	0.49
1:0:2544:A:H2'	1:0:2545:A:C1'	2.42	0.49
1:0:298:C:H2'	1:0:299:C:H6	1.78	0.49
1:0:338:G:H2'	1:0:339:U:H5'	1.94	0.49
1:0:1166:A:C2'	1:0:1167:A:H5''	2.42	0.49
1:0:1479:G:N2	1:0:1543:G:H21	2.11	0.49
1:0:228:A:C5	1:0:229:G:H1'	2.47	0.49
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.49
1:0:298:C:H2'	1:0:299:C:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:45:C:H2'	1:0:46:C:C6	2.48	0.49
1:0:843:G:H8	1:0:843:G:OP1	1.95	0.49
1:0:1380:C:H2'	1:0:1381:G:H5'	1.95	0.49
1:0:1730:G:H2'	1:0:1731:C:H6	1.76	0.49
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:2523:G:H1'	1:0:2625:U:C5'	2.42	0.49
1:0:1936:A:O2'	1:0:2538:C:H1'	2.13	0.49
1:0:29:U:O5'	1:0:29:U:H6	1.96	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.12	0.49
1:0:79:G:H2'	1:0:80:A:C8	2.46	0.49
1:0:1212:U:H2'	1:0:1213:U:C6	2.48	0.49
1:0:1980:A:O2'	1:0:1981:A:H5'	2.13	0.49
1:0:2054:A:H2'	1:0:2055:G:H8	1.77	0.49
1:0:2122:G:H2'	1:0:2123:G:H8	1.77	0.49
1:0:2754:C:H2'	1:0:2755:A:H8	1.77	0.49
2:9:28:A:OP2	2:9:29:C:H5	1.95	0.49
2:9:59:A:C4	6:D:27:ALA:CA	2.95	0.49
2:9:116:C:O2'	15:M:50:THR:CA	2.60	0.49
1:0:1073:G:C2'	1:0:1074:G:H4'	2.30	0.49
1:0:1288:A:H2'	1:0:1289:A:O4'	2.13	0.49
1:0:132:U:H2'	1:0:133:C:C6	2.48	0.49
1:0:1341:G:H2'	1:0:1343:C:C5	2.48	0.49
1:0:1429:A:H61	1:0:1602:G:H5'	1.78	0.49
1:0:1284:G:C2	1:0:1633:C:H5'	2.48	0.49
1:0:1687:C:H1'	1:0:1976:U:O2	2.13	0.49
1:0:1888:C:H2'	1:0:1913:G:C5	2.48	0.49
1:0:2039:G:OP2	1:0:2483:U:H4'	2.13	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
1:0:333:A:O2'	1:0:350:U:H2'	2.12	0.49
1:0:782:U:HO2'	1:0:1392:U:H5	1.60	0.49
2:9:23:G:C2	2:9:24:U:C2	3.01	0.49
2:9:28:A:H3'	2:9:29:C:C6	2.43	0.49
1:0:931:G:C5'	2:9:83:C:H1'	2.43	0.49
1:0:1811:A:N3	1:0:1811:A:H2'	2.27	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
1:0:446:C:H2'	1:0:447:U:O4'	2.13	0.49
1:0:605:G:H2'	1:0:606:A:C8	2.48	0.49
1:0:870:C:H2'	1:0:871:U:H6	1.77	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:1347:C:O2'	1:0:1348:C:H5'	2.12	0.48
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2010:G:H2'	1:0:2011:U:C6	2.48	0.48
1:0:2426:G:N2	1:0:2430:A:H62	2.11	0.48
1:0:805:G:H5''	1:0:806:A:O5'	2.13	0.48
2:9:67:C:C3'	2:9:68:A:H5'	2.43	0.48
2:9:92:G:C3'	2:9:93:G:H5'	2.42	0.48
1:0:1482:U:H2'	1:0:1483:G:C8	2.48	0.48
1:0:220:U:H2'	1:0:221:A:H8	1.79	0.48
1:0:681:A:N6	1:0:683:A:H2'	2.28	0.48
2:9:71:G:H2'	2:9:72:C:H5'	1.95	0.48
2:9:89:G:N2	2:9:91:A:C8	2.81	0.48
1:0:1087:C:H2'	1:0:1088:A:O4'	2.13	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:1940:C:H2'	1:0:1941:C:C6	2.48	0.48
1:0:612:G:H4'	1:0:613:A:H4'	1.94	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:702:A:N3	1:0:792:U:H1'	2.27	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.77	0.48
1:0:843:G:HO2'	1:0:844:G:P	2.35	0.48
1:0:1622:G:H4'	1:0:1624:A:N3	2.29	0.48
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.48
1:0:2217:G:N3	1:0:2217:G:H3'	2.28	0.48
1:0:2225:G:H2'	1:0:2226:A:H8	1.79	0.48
1:0:2671:C:O2'	1:0:2672:U:H5'	2.13	0.48
1:0:2761:A:C5'	1:0:2762:G:H5'	2.44	0.48
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.48
1:0:583:C:O2'	1:0:584:A:P	2.72	0.48
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.48
1:0:80:A:H2'	1:0:81:C:C6	2.47	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.48	0.48
2:9:107:C:C6	2:9:107:C:H3'	2.47	0.48
2:9:63:A:H2'	2:9:64:C:C6	2.47	0.48
1:0:1023:U:H1'	1:0:1154:A:C8	2.48	0.48
1:0:1339:U:O4	1:0:1664:G:H1'	2.14	0.48
1:0:1424:U:H2'	1:0:1425:G:H8	1.78	0.48
1:0:1692:C:H2'	1:0:1693:A:H5'	1.95	0.48
1:0:1955:G:H2'	1:0:1956:G:H5'	1.94	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.95	0.48
1:0:2469:G:H4'	1:0:2470:U:H5	1.77	0.48
1:0:2508:G:H5''	1:0:2509:A:H5''	1.95	0.48
1:0:1141:U:OP2	1:0:2549:G:N2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:347:C:H2'	1:0:348:U:O4'	2.14	0.48
1:0:475:U:H1'	1:0:801:A:N1	2.28	0.48
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.48
1:0:117:A:H5'	1:0:118:U:O5'	2.14	0.48
1:0:1402:G:H2'	1:0:1403:U:O4'	2.13	0.48
1:0:1461:C:H2'	1:0:1462:C:C6	2.49	0.48
1:0:1626:A:OP2	1:0:1626:A:C8	2.66	0.48
1:0:195:A:H2'	1:0:196:A:O4'	2.13	0.48
1:0:2048:C:H2'	1:0:2049:C:C6	2.48	0.48
1:0:2059:U:H2'	1:0:2060:A:C5'	2.36	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.49	0.48
1:0:839:U:H5'	1:0:2407:G:H2'	1.95	0.48
1:0:2468:G:H2'	1:0:2469:G:O4'	2.14	0.48
1:0:2480:C:H5''	1:0:2482:A:H5'	1.95	0.48
1:0:2488:G:N2	1:0:2559:U:H1'	2.28	0.48
1:0:2712:G:H5'	1:0:2713:A:C8	2.49	0.48
1:0:2795:A:H2'	1:0:2795:A:N3	2.28	0.48
1:0:696:U:O5'	1:0:696:U:H6	1.97	0.48
1:0:781:G:H2'	1:0:782:U:O4'	2.13	0.48
1:0:957:G:O2'	1:0:958:G:H5'	2.14	0.48
2:9:85:G:O2'	2:9:86:A:H5'	2.13	0.48
1:0:1001:A:H62	1:0:1200:G:H1'	1.79	0.48
1:0:1307:U:H2'	1:0:1308:C:O4'	2.13	0.48
1:0:1442:C:N4	1:0:1585:A:C8	2.82	0.48
1:0:1432:G:N2	1:0:1596:A:H62	1.95	0.48
1:0:2478:C:C2'	1:0:2479:U:H5'	2.44	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:717:G:H1'	1:0:740:A:H61	1.79	0.48
2:9:32:C:H4'	2:9:60:A:C2	2.47	0.48
2:9:91:A:O5'	2:9:91:A:H8	1.97	0.48
1:0:1327:C:OP1	1:0:1345:G:H5'	2.14	0.48
1:0:1541:G:H22	1:0:1561:A:N6	2.11	0.48
1:0:1756:C:H2'	1:0:1757:C:C6	2.49	0.48
1:0:2011:U:H2'	1:0:2012:A:H8	1.79	0.48
1:0:539:A:H62	1:0:2024:U:H3	1.61	0.48
1:0:242:A:O2'	1:0:243:G:P	2.72	0.48
1:0:2447:G:O5'	1:0:2447:G:H8	1.97	0.48
1:0:2820:C:H2'	1:0:2821:G:H8	1.78	0.48
1:0:486:U:C4'	1:0:520:C:H5'	2.43	0.48
1:0:657:A:H8	1:0:657:A:O5'	1.96	0.48
1:0:777:A:N6	1:0:1767:G:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:942:U:H2'	1:0:943:U:O4'	2.14	0.48
1:0:990:A:H3'	1:0:991:A:H5''	1.96	0.48
1:0:1066:G:H3'	1:0:1067:G:C5'	2.44	0.48
1:0:1226:A:N1	1:0:1250:A:H1'	2.29	0.48
1:0:13:A:O2'	1:0:14:A:C2	2.67	0.48
1:0:1458:A:C3'	1:0:1459:U:H5''	2.38	0.48
1:0:15:G:C2'	1:0:16:G:H5'	2.44	0.48
1:0:1969:G:O2'	1:0:1970:G:H5'	2.14	0.48
1:0:2053:G:H2'	1:0:2054:A:H8	1.76	0.48
1:0:2117:A:N6	1:0:2139:G:H21	2.11	0.48
1:0:2810:A:H2	1:0:2853:U:C5	2.31	0.48
1:0:614:G:H2'	1:0:615:C:C6	2.47	0.48
1:0:995:A:H5''	1:0:996:C:C5	2.47	0.48
1:0:1721:G:O2'	1:0:1722:G:H5'	2.13	0.48
1:0:1740:G:O2'	1:0:1741:G:H5'	2.14	0.48
1:0:1858:C:H2'	1:0:1859:A:H8	1.79	0.48
1:0:2311:U:HO2'	1:0:2312:A:H8	1.60	0.48
1:0:2665:G:H2'	1:0:2666:U:O4'	2.14	0.48
1:0:581:A:N3	1:0:582:G:H1'	2.28	0.48
1:0:736:G:H2'	1:0:737:C:C6	2.49	0.48
1:0:824:U:H2'	1:0:825:C:C5'	2.43	0.48
1:0:860:U:H2'	1:0:861:G:H5'	1.95	0.48
2:9:42:U:H3'	2:9:43:G:H5''	1.96	0.48
1:0:1162:A:O2'	1:0:1163:C:H5'	2.13	0.47
1:0:1425:G:H2'	1:0:1426:U:C6	2.49	0.47
1:0:1906:U:H2'	1:0:1907:C:C6	2.49	0.47
1:0:195:A:C2'	1:0:196:A:H5'	2.44	0.47
1:0:2070:G:H2'	1:0:2071:G:O4'	2.14	0.47
1:0:1139:A:H1'	1:0:2496:C:H5'	1.96	0.47
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.47
1:0:353:G:H2'	1:0:354:C:C6	2.48	0.47
1:0:521:U:H5''	1:0:1248:G:H4'	1.96	0.47
1:0:562:G:H2'	1:0:563:U:O4'	2.14	0.47
1:0:633:G:H8	1:0:633:G:O5'	1.97	0.47
1:0:735:G:O2'	1:0:736:G:H5'	2.14	0.47
1:0:788:G:H5''	1:0:789:G:OP1	2.13	0.47
1:0:915:C:H2'	1:0:916:U:C6	2.49	0.47
1:0:953:G:H1'	1:0:1203:A:C2	2.43	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1007:A:H2'	1:0:1008:G:H8	1.79	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1257:U:H2'	1:0:1258:G:H8	1.77	0.47
1:0:1301:U:H5''	1:0:1302:C:OP1	2.14	0.47
1:0:147:G:H8	1:0:147:G:O5'	1.97	0.47
1:0:1666:G:H2'	1:0:1667:A:H8	1.77	0.47
1:0:1783:G:O6	1:0:1820:G:H1'	2.14	0.47
1:0:964:A:H1'	1:0:2245:A:OP2	2.14	0.47
1:0:2396:C:O2'	1:0:2397:A:H5'	2.14	0.47
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.47
1:0:537:C:C6	1:0:2759:U:H2'	2.48	0.47
1:0:365:U:H2'	1:0:366:U:C6	2.49	0.47
1:0:524:A:O2'	1:0:525:A:H5'	2.13	0.47
1:0:699:G:H5'	1:0:700:C:OP2	2.14	0.47
1:0:1032:A:C2'	1:0:1033:G:H4'	2.39	0.47
1:0:1630:A:H8	1:0:1630:A:OP2	1.97	0.47
1:0:2182:A:H2'	1:0:2183:C:O4'	2.14	0.47
1:0:2424:G:H2'	1:0:2425:G:O4'	2.13	0.47
1:0:297:A:H2'	1:0:298:C:C6	2.49	0.47
1:0:788:G:H5'	1:0:790:A:N3	2.29	0.47
1:0:926:C:H2'	1:0:927:C:H5'	1.96	0.47
1:0:956:A:N3	1:0:956:A:H2'	2.29	0.47
2:9:35:C:H2'	2:9:36:A:O4'	2.14	0.47
1:0:236:C:H2'	1:0:237:G:C8	2.43	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.96	0.47
1:0:2425:G:H2'	1:0:2480:C:N4	2.29	0.47
1:0:2426:G:N2	1:0:2431:C:H41	2.12	0.47
1:0:2459:C:C2'	1:0:2460:G:H5'	2.45	0.47
1:0:2658:A:H2'	1:0:2659:C:O4'	2.14	0.47
1:0:305:A:H2'	1:0:306:G:O4'	2.14	0.47
1:0:592:G:H2'	1:0:593:C:C6	2.49	0.47
2:9:117:G:O2'	2:9:118:G:H5'	2.14	0.47
2:9:8:C:O2'	2:9:9:G:H5'	2.14	0.47
1:0:1166:A:H2'	1:0:1167:A:H5''	1.95	0.47
1:0:1277:G:H2'	1:0:1997:A:N6	2.30	0.47
1:0:1407:G:H2'	1:0:1408:A:C8	2.49	0.47
1:0:1456:C:O2'	1:0:1457:A:H5'	2.14	0.47
1:0:1764:A:H2'	1:0:1765:C:H5'	1.95	0.47
1:0:192:G:H4'	1:0:193:A:O5'	2.14	0.47
1:0:1956:G:H2'	1:0:1957:C:C6	2.49	0.47
1:0:1959:U:H2'	1:0:1960:A:C8	2.49	0.47
1:0:167:A:N6	1:0:812:G:O2'	2.45	0.47
1:0:974:U:H5'	1:0:2476:A:OP1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:H6	2:9:34:C:O5'	1.98	0.47
1:0:1102:G:H2'	1:0:1103:C:C6	2.48	0.47
1:0:1141:U:O2'	1:0:1142:G:OP1	2.27	0.47
1:0:1487:C:H2'	1:0:1488:G:H8	1.80	0.47
1:0:1719:G:O2'	1:0:1720:G:H5'	2.14	0.47
1:0:1857:G:H2'	1:0:1859:A:OP2	2.14	0.47
1:0:1915:A:N1	1:0:1956:G:H1'	2.29	0.47
1:0:1957:C:O2'	1:0:1958:G:H5'	2.14	0.47
1:0:2094:C:C4	1:0:2103:G:H1'	2.50	0.47
1:0:2727:G:H2'	1:0:2728:A:H5''	1.95	0.47
1:0:2814:G:H1	1:0:2853:U:H3	1.62	0.47
1:0:457:C:O2'	1:0:458:G:H5'	2.13	0.47
1:0:701:U:O2'	1:0:702:A:H5'	2.14	0.47
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.47
1:0:1373:G:H2'	1:0:1374:G:H5'	1.97	0.47
1:0:1437:A:O2'	1:0:1438:G:H5'	2.14	0.47
1:0:1365:U:H1'	1:0:1586:A:H2	1.79	0.47
1:0:2617:G:O2'	1:0:2618:A:H8	1.97	0.47
1:0:2862:G:O2'	1:0:2863:U:H5'	2.15	0.47
1:0:482:A:C2'	1:0:483:A:H5'	2.45	0.47
1:0:587:A:OP2	1:0:587:A:H8	1.98	0.47
1:0:657:A:H2'	1:0:658:G:H8	1.78	0.47
2:9:108:G:H2'	2:9:109:G:H8	1.79	0.47
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.47
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:2048:C:H2'	1:0:2049:C:H6	1.80	0.47
1:0:2245:A:C2'	1:0:2246:A:OP2	2.62	0.47
1:0:2384:G:H2'	1:0:2390:A:H62	1.80	0.47
1:0:2433:G:H2'	1:0:2434:G:H8	1.80	0.47
1:0:640:C:H5''	1:0:660:G:O2'	2.13	0.47
1:0:957:G:N2	1:0:983:G:H1'	2.29	0.47
2:9:88:C:H2'	2:9:89:G:O4'	2.15	0.47
1:0:1253:C:C2'	1:0:1254:G:H5'	2.44	0.47
1:0:1317:G:O2'	1:0:1318:A:H5'	2.14	0.47
1:0:1322:G:N2	1:0:1627:C:H5'	2.28	0.47
1:0:1668:G:O2'	1:0:1669:A:H5'	2.15	0.47
1:0:174:A:H4'	1:0:2052:G:OP2	2.15	0.47
1:0:2470:U:H2'	1:0:2471:U:C6	2.50	0.47
1:0:2739:G:H2'	1:0:2740:C:O4'	2.15	0.47
1:0:305:A:C2'	1:0:306:G:H5'	2.45	0.47
1:0:397:U:H2'	1:0:398:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:605:G:H2'	1:0:606:A:H8	1.80	0.47
2:9:24:U:H2'	2:9:25:G:O5'	2.14	0.47
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.47
1:0:1802:A:H2'	1:0:1803:G:O4'	2.15	0.47
1:0:181:A:H5''	1:0:182:G:OP1	2.14	0.47
1:0:2204:A:H1'	1:0:2205:C:C5	2.49	0.47
1:0:4:C:H2'	1:0:5:A:C8	2.50	0.47
1:0:550:C:H2'	1:0:551:A:H8	1.80	0.47
1:0:1680:U:H6	1:0:1680:U:H5'	1.80	0.47
1:0:1940:C:H2'	1:0:1941:C:H6	1.80	0.47
1:0:211:U:O2'	1:0:212:U:H5'	2.15	0.47
1:0:2227:C:H2'	1:0:2228:U:H5'	1.96	0.47
1:0:2404:A:O2'	1:0:2405:A:OP2	2.28	0.47
1:0:2045:A:H4'	1:0:2421:C:OP2	2.13	0.47
1:0:2446:C:H2'	1:0:2447:G:C8	2.50	0.47
1:0:422:C:H2'	1:0:423:G:O4'	2.15	0.47
1:0:450:C:H2'	1:0:451:A:C8	2.51	0.47
1:0:461:A:N3	1:0:461:A:H2'	2.30	0.47
1:0:912:A:H2'	1:0:913:A:H8	1.80	0.47
2:9:42:U:O4	2:9:45:C:OP2	2.33	0.47
1:0:1621:C:O2'	1:0:1626:A:N7	2.45	0.46
1:0:1871:G:C2'	1:0:1871:G:N3	2.78	0.46
1:0:1970:G:O2'	1:0:1971:C:H5'	2.15	0.46
1:0:2204:A:O2'	1:0:2205:C:OP2	2.30	0.46
1:0:2286:G:H21	1:0:2290:A:H62	1.63	0.46
1:0:2396:C:H6	1:0:2396:C:H5'	1.80	0.46
1:0:2492:G:H1	1:0:2550:C:N4	2.13	0.46
1:0:2598:C:H2'	1:0:2599:U:C6	2.50	0.46
1:0:2617:G:N2	1:0:2755:A:H2'	2.30	0.46
1:0:433:G:N2	1:0:434:C:H1'	2.30	0.46
1:0:538:A:C2'	1:0:539:A:H5''	2.44	0.46
1:0:786:U:H2'	1:0:787:A:H5'	1.97	0.46
2:9:68:A:C2	2:9:110:U:C4	3.03	0.46
1:0:1139:A:H1'	1:0:2495:G:O2'	2.15	0.46
1:0:1442:C:N4	1:0:1585:A:H8	2.13	0.46
1:0:1793:A:H2'	1:0:1794:A:C8	2.50	0.46
1:0:246:C:N4	1:0:247:A:H62	2.13	0.46
1:0:2624:G:H4'	1:0:2712:G:O2'	2.15	0.46
1:0:2785:A:H62	1:0:2865:G:H21	1.63	0.46
1:0:2830:U:H2'	1:0:2831:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:487:G:H1'	1:0:515:A:H2	1.79	0.46
1:0:538:A:C3'	1:0:539:A:H5''	2.45	0.46
1:0:785:U:O2'	1:0:786:U:H5'	2.15	0.46
1:0:83:A:N1	1:0:98:U:H1'	2.31	0.46
2:9:45:C:H42	2:9:47:A:H62	1.63	0.46
1:0:1715:A:H1'	1:0:1717:A:O4'	2.14	0.46
1:0:31:C:H5''	1:0:1252:C:OP1	2.14	0.46
1:0:429:C:H2'	1:0:430:C:O4'	2.15	0.46
1:0:631:G:H5''	1:0:632:A:OP1	2.16	0.46
1:0:984:A:H1'	1:0:1202:U:C5	2.51	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.80	0.46
1:0:1964:A:OP1	1:0:1965:U:OP2	2.33	0.46
1:0:225:G:H5'	1:0:226:C:H5'	1.97	0.46
1:0:2402:U:H5'	1:0:2404:A:C5	2.51	0.46
1:0:2225:G:C2	1:0:2405:A:H1'	2.50	0.46
1:0:514:G:N3	1:0:514:G:C2'	2.78	0.46
1:0:515:A:C2'	1:0:516:G:H5'	2.46	0.46
1:0:612:G:O3'	1:0:613:A:C4'	2.59	0.46
2:9:30:C:O5'	2:9:30:C:C6	2.64	0.46
2:9:5:C:H2'	2:9:6:C:O4'	2.15	0.46
1:0:1472:C:HO2'	1:0:1474:A:H8	1.62	0.46
1:0:1337:G:H4'	1:0:1632:A:N7	2.31	0.46
1:0:2055:G:O2'	1:0:2056:C:H5'	2.15	0.46
1:0:2523:G:H2'	1:0:2524:G:O4'	2.16	0.46
1:0:2858:A:H3'	1:0:2859:U:H5'	1.97	0.46
1:0:393:U:H2'	1:0:394:U:H6	1.80	0.46
1:0:474:G:H22	1:0:476:G:H3'	1.80	0.46
1:0:619:A:H2'	1:0:620:G:C8	2.50	0.46
1:0:65:C:C2'	1:0:66:U:H5'	2.45	0.46
1:0:69:G:H4'	1:0:70:A:O5'	2.16	0.46
1:0:732:G:O5'	1:0:732:G:H8	1.99	0.46
1:0:1221:C:H6	1:0:1221:C:O5'	1.99	0.46
1:0:1496:G:H1	1:0:1527:G:H1	1.64	0.46
1:0:1669:A:H2'	1:0:1670:G:H4'	1.98	0.46
1:0:2407:G:H5''	1:0:2408:G:OP1	2.15	0.46
1:0:482:A:H2'	1:0:483:A:O4'	2.16	0.46
1:0:591:G:H2'	1:0:592:G:C8	2.49	0.46
1:0:699:G:N3	1:0:699:G:H3'	2.30	0.46
1:0:810:U:H2'	1:0:811:G:C8	2.51	0.46
1:0:1002:C:O5'	1:0:1002:C:H6	1.99	0.46
1:0:1216:G:H2'	1:0:1217:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1447:U:H1'	1:0:1577:G:H22	1.79	0.46
1:0:1671:A:O4'	1:0:2798:A:H5'	2.16	0.46
1:0:1714:A:C5	1:0:1715:A:N6	2.79	0.46
1:0:1827:G:H1'	1:0:1914:U:N3	2.31	0.46
1:0:221:A:N6	1:0:231:G:H21	2.14	0.46
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:646:C:O2'	1:0:650:U:H5''	2.16	0.46
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	0.46
2:9:23:G:H2'	2:9:24:U:C6	2.51	0.46
2:9:51:G:O2'	2:9:52:G:H5'	2.15	0.46
1:0:1034:U:H4'	1:0:1134:C:OP1	2.15	0.46
1:0:1478:U:H2'	1:0:1479:G:C8	2.51	0.46
1:0:1624:A:C2'	1:0:1625:A:H5'	2.45	0.46
1:0:170:U:H2'	1:0:171:G:C8	2.46	0.46
1:0:2015:G:O2'	1:0:2016:A:OP1	2.28	0.46
1:0:299:C:H2'	1:0:300:C:C5	2.51	0.46
1:0:394:U:O2'	1:0:395:G:H5'	2.16	0.46
1:0:40:U:H2'	1:0:41:G:C8	2.50	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.51	0.46
1:0:635:C:O2	1:0:670:U:H4'	2.16	0.46
1:0:839:U:H5''	1:0:2408:G:P	2.55	0.46
1:0:931:G:H2'	1:0:932:G:C5'	2.46	0.46
1:0:115:G:C6	1:0:117:A:N6	2.84	0.46
1:0:1494:G:H2'	1:0:1495:G:O4'	2.16	0.46
1:0:1356:G:H1'	1:0:1613:G:C2	2.51	0.46
1:0:1784:C:O2'	1:0:1785:A:H5'	2.16	0.46
1:0:1918:G:H4'	1:0:1920:A:C2	2.51	0.46
1:0:2093:G:H2'	1:0:2094:C:H6	1.80	0.46
1:0:2225:G:O2'	1:0:2226:A:H5'	2.16	0.46
1:0:872:G:O2'	1:0:2247:A:C4	2.69	0.46
1:0:2397:A:H2'	1:0:2398:U:O4'	2.16	0.46
1:0:2511:G:N2	1:0:2642:G:O2'	2.49	0.46
1:0:2751:C:H2'	1:0:2752:C:C6	2.50	0.46
1:0:642:A:H2'	1:0:643:A:C8	2.51	0.46
1:0:643:A:O2'	1:0:644:A:H5'	2.15	0.46
1:0:764:A:N3	1:0:764:A:C2'	2.77	0.46
1:0:974:U:H2'	1:0:975:C:O4'	2.16	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.98	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.16	0.46
1:0:1715:A:HO2'	1:0:1716:G:H8	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:G:O3'	1:0:1791:C:H6	1.99	0.46
1:0:1923:U:H2'	1:0:1923:U:O2	2.16	0.46
1:0:1952:A:O2'	1:0:1955:G:N2	2.49	0.46
1:0:2245:A:H2'	1:0:2246:A:OP2	2.16	0.46
1:0:2264:C:H2'	1:0:2265:A:H5'	1.98	0.46
1:0:2321:C:O2'	1:0:2353:G:H5''	2.16	0.46
1:0:2687:G:O2'	1:0:2688:G:H5'	2.17	0.46
1:0:367:G:C3'	1:0:368:A:H5''	2.46	0.46
1:0:490:A:N7	1:0:492:G:H1'	2.31	0.46
2:9:94:G:H2'	2:9:94:G:N3	2.30	0.46
1:0:1226:A:H2'	1:0:1227:A:H8	1.80	0.45
1:0:1356:G:H4'	1:0:1613:G:H2'	1.98	0.45
1:0:141:G:H2'	1:0:142:U:H6	1.81	0.45
1:0:1855:G:H4'	1:0:2390:A:H4'	1.98	0.45
1:0:2045:A:H3'	1:0:2046:C:C5'	2.46	0.45
1:0:20:C:H2'	1:0:21:A:H8	1.81	0.45
1:0:2753:C:H2'	1:0:2754:C:H6	1.79	0.45
1:0:674:U:H2'	1:0:675:C:C6	2.52	0.45
1:0:840:U:H4'	1:0:841:G:N2	2.31	0.45
1:0:677:G:H4'	1:0:951:G:O3'	2.16	0.45
1:0:1147:G:O2'	1:0:1148:G:H5'	2.16	0.45
1:0:1171:A:H2'	1:0:1172:U:C6	2.51	0.45
1:0:455:A:H4'	1:0:1214:C:O2'	2.15	0.45
1:0:1739:G:H2'	1:0:1740:G:C8	2.51	0.45
1:0:1787:U:H2'	1:0:1788:C:H6	1.81	0.45
1:0:2307:A:H2'	1:0:2308:A:H8	1.79	0.45
1:0:718:A:O2'	1:0:719:A:H5'	2.14	0.45
1:0:942:U:H2'	1:0:943:U:C4'	2.46	0.45
1:0:1001:A:H5'	1:0:1168:G:OP1	2.17	0.45
1:0:1333:G:N2	1:0:1344:C:N4	2.64	0.45
1:0:1715:A:HO2'	1:0:1716:G:H3'	1.81	0.45
1:0:190:A:H2'	1:0:191:G:H8	1.81	0.45
1:0:195:A:H2'	1:0:196:A:H5'	1.98	0.45
1:0:871:U:O2	1:0:2247:A:H2'	2.16	0.45
1:0:2324:G:HO2'	1:0:2325:A:H5''	1.81	0.45
1:0:239:A:C5'	1:0:620:G:H5'	2.46	0.45
1:0:2511:G:H2'	1:0:2512:A:O4'	2.17	0.45
1:0:1281:A:C4'	1:0:2592:U:O2	2.65	0.45
1:0:544:U:H2'	1:0:545:C:O4'	2.16	0.45
1:0:981:C:H2'	1:0:982:C:C6	2.52	0.45
2:9:112:A:H2'	2:9:113:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:92:G:H2'	2:9:93:G:C5'	2.39	0.45
1:0:50:G:H2'	1:0:117:A:N1	2.30	0.45
1:0:1685:A:N6	1:0:1691:G:N3	2.64	0.45
1:0:2019:C:H5'	1:0:2019:C:H6	1.82	0.45
1:0:2396:C:H2'	1:0:2397:A:C5'	2.46	0.45
1:0:2504:G:O4'	1:0:2721:A:H2	1.99	0.45
1:0:2617:G:H22	1:0:2755:A:H2'	1.82	0.45
1:0:2652:G:H2'	1:0:2653:A:C8	2.40	0.45
1:0:305:A:H2'	1:0:306:G:H5'	1.97	0.45
1:0:669:G:H2'	1:0:670:U:H6	1.80	0.45
1:0:675:C:H2'	1:0:676:G:H8	1.82	0.45
1:0:697:G:O2'	1:0:698:A:H5'	2.15	0.45
1:0:986:A:H2'	1:0:987:G:H5'	1.98	0.45
1:0:2104:G:H2'	1:0:2105:U:H6	1.81	0.45
1:0:2459:C:H2'	1:0:2460:G:O4'	2.17	0.45
1:0:2713:A:O2'	1:0:2714:A:H5'	2.16	0.45
1:0:462:G:H2'	1:0:463:C:H5'	1.99	0.45
1:0:733:G:O2'	1:0:734:G:H5'	2.17	0.45
1:0:1473:U:H4'	1:0:1474:A:C8	2.52	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.31	0.45
1:0:1538:A:O2'	1:0:1539:U:H5'	2.17	0.45
1:0:1479:G:N2	1:0:1543:G:N2	2.64	0.45
1:0:1821:A:H3'	1:0:1822:C:C6	2.52	0.45
1:0:1854:G:O2'	1:0:1855:G:H5'	2.16	0.45
1:0:2249:U:H2'	1:0:2250:G:H5'	1.99	0.45
1:0:2274:C:C2'	1:0:2275:U:H5''	2.46	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:745:C:C2'	1:0:746:G:H5'	2.47	0.45
1:0:1388:C:H2'	1:0:1389:C:C6	2.47	0.45
1:0:1666:G:H2'	1:0:1667:A:C8	2.52	0.45
1:0:1789:U:O2	1:0:1793:A:H2	1.99	0.45
1:0:1849:G:O5'	1:0:1849:G:H8	2.00	0.45
1:0:1947:G:H5''	1:0:1948:C:OP1	2.16	0.45
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.45
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.45
1:0:362:C:C2'	1:0:363:G:H4'	2.27	0.45
1:0:393:U:O2'	1:0:394:U:H5'	2.17	0.45
1:0:665:A:H3'	1:0:666:U:H5''	1.97	0.45
1:0:889:C:O2'	1:0:890:U:H5'	2.17	0.45
1:0:930:A:H4'	1:0:930:A:OP1	2.15	0.45
2:9:114:C:O5'	2:9:114:C:C6	2.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:341:A:H1'	1:0:1223:G:O6	2.17	0.45
1:0:1227:A:C4'	1:0:1252:C:H4'	2.47	0.45
1:0:824:U:O2'	1:0:1264:C:O4'	2.34	0.45
1:0:1429:A:C6	1:0:1602:G:H5'	2.50	0.45
1:0:1356:G:C4'	1:0:1613:G:H2'	2.47	0.45
1:0:1699:A:C6	1:0:1748:U:H1'	2.52	0.45
1:0:1846:A:H2'	1:0:1847:G:O4'	2.17	0.45
1:0:1933:G:H8	1:0:1933:G:O5'	2.00	0.45
1:0:403:A:H5''	1:0:404:A:OP1	2.17	0.45
1:0:70:A:OP2	1:0:111:G:O5'	2.34	0.45
1:0:1278:A:O2'	1:0:1279:G:P	2.75	0.45
1:0:1706:A:N6	1:0:1714:A:H2'	2.32	0.45
1:0:2230:G:C8	1:0:2476:A:N6	2.85	0.45
1:0:322:A:H2	1:0:342:G:OP2	2.00	0.45
1:0:486:U:H2'	1:0:487:G:H5'	1.99	0.45
1:0:745:C:H2'	1:0:746:G:C5'	2.47	0.45
1:0:931:G:H2'	1:0:932:G:H5'	1.99	0.45
2:9:104:A:C8	2:9:105:G:N7	2.85	0.45
1:0:1449:C:O2'	1:0:1450:G:H5'	2.17	0.45
1:0:1950:C:H2'	1:0:1951:G:O4'	2.16	0.45
1:0:2407:G:H4'	1:0:2408:G:C5	2.52	0.45
1:0:2483:U:H3'	1:0:2484:G:H5''	1.97	0.45
1:0:2533:U:H2'	1:0:2534:U:C6	2.52	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.99	0.45
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.45
1:0:1008:G:O2'	1:0:1009:C:H5'	2.17	0.44
1:0:115:G:H8	1:0:115:G:O5'	2.00	0.44
1:0:127:C:H5''	1:0:1615:C:O2'	2.16	0.44
1:0:1363:C:H2'	1:0:1364:C:O4'	2.17	0.44
1:0:1540:C:H2'	1:0:1541:G:H8	1.83	0.44
1:0:2347:C:H2'	1:0:2348:A:C8	2.52	0.44
1:0:2454:C:H42	1:0:2508:G:H22	1.65	0.44
1:0:2633:A:H4'	1:0:2634:G:H4'	1.98	0.44
1:0:2841:U:O2'	1:0:2842:C:H5'	2.17	0.44
1:0:343:A:N6	1:0:346:C:C5	2.85	0.44
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.44
1:0:930:A:H5'	1:0:931:G:C8	2.52	0.44
1:0:1064:C:H2'	1:0:1065:A:C8	2.52	0.44
1:0:1802:A:O2'	1:0:1803:G:H5'	2.16	0.44
1:0:1884:A:O2'	1:0:1885:C:H5'	2.17	0.44
1:0:2002:A:C2	1:0:2003:A:H1'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2024:U:H2'	1:0:2025:A:C8	2.52	0.44
1:0:538:A:N1	1:0:2026:C:H5''	2.32	0.44
1:0:2163:U:H2'	1:0:2164:G:H8	1.82	0.44
1:0:225:G:H3'	1:0:226:C:H5'	2.00	0.44
1:0:2572:U:H2'	1:0:2573:C:H6	1.83	0.44
1:0:2748:C:H2'	1:0:2749:A:O4'	2.18	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.18	0.44
1:0:1132:C:O2'	1:0:1133:G:H5'	2.17	0.44
1:0:560:G:H21	1:0:1233:A:H2	1.65	0.44
1:0:1426:U:H2'	1:0:1427:G:O4'	2.17	0.44
1:0:1512:A:O5'	1:0:1512:A:H8	1.99	0.44
1:0:1541:G:N2	1:0:1562:G:N2	2.65	0.44
1:0:1685:A:H2	1:0:1687:C:C2	2.35	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	1.99	0.44
1:0:1937:G:H21	1:0:2530:C:H5''	1.82	0.44
1:0:2784:A:H3'	1:0:2785:A:H8	1.82	0.44
1:0:416:U:C5'	1:0:417:C:H5'	2.42	0.44
1:0:815:A:H2'	1:0:816:U:O4'	2.17	0.44
1:0:960:U:H2'	1:0:961:G:C8	2.51	0.44
2:9:73:C:O2	2:9:109:G:C2	2.70	0.44
2:9:33:C:H2'	2:9:34:C:C6	2.52	0.44
2:9:64:C:N4	2:9:65:A:C6	2.86	0.44
1:0:1459:U:H2'	1:0:1475:U:HO2'	1.80	0.44
1:0:1462:C:O2'	1:0:1560:A:H1'	2.17	0.44
1:0:424:G:N7	1:0:2385:U:N3	2.65	0.44
1:0:83:A:H8	1:0:83:A:O5'	2.00	0.44
1:0:859:U:H4'	1:0:860:U:H5	1.82	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.43	0.44
1:0:118:U:H5''	1:0:120:G:OP2	2.17	0.44
1:0:1669:A:H61	1:0:1670:G:H21	1.66	0.44
1:0:1750:A:C8	1:0:2675:U:H1'	2.53	0.44
1:0:1748:U:N3	1:0:1753:A:C2	2.75	0.44
1:0:1872:A:H2'	1:0:1873:A:C8	2.52	0.44
1:0:1938:U:O2'	1:0:1939:U:H5'	2.18	0.44
1:0:2136:G:H2'	1:0:2137:G:C8	2.53	0.44
1:0:2177:U:O2'	1:0:2178:U:H5'	2.18	0.44
1:0:2202:G:H3'	1:0:2203:G:C8	2.53	0.44
1:0:2215:C:H2'	1:0:2216:G:O4'	2.18	0.44
1:0:608:G:O2'	1:0:609:U:H5'	2.18	0.44
1:0:768:U:H5'	1:0:1285:A:N1	2.33	0.44
1:0:699:G:N1	1:0:801:A:C2	2.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:805:G:H4'	1:0:806:A:OP2	2.14	0.44
2:9:61:A:O5'	2:9:61:A:C8	2.60	0.44
1:0:1223:G:N1	1:0:1250:A:N7	2.66	0.44
1:0:128:C:H2'	1:0:129:A:H5''	2.00	0.44
1:0:1295:U:H2'	1:0:1296:G:C5'	2.43	0.44
1:0:187:U:H1'	1:0:1379:A:C2	2.53	0.44
1:0:161:U:H5'	1:0:193:A:N1	2.33	0.44
1:0:1792:C:H6	1:0:1792:C:O5'	2.00	0.44
1:0:1849:G:H21	1:0:1868:A:H62	1.65	0.44
1:0:221:A:C2'	1:0:222:G:H5'	2.47	0.44
1:0:2409:A:C2'	1:0:2410:U:H5'	2.47	0.44
1:0:2426:G:H22	1:0:2431:C:H41	1.64	0.44
1:0:2488:G:H2'	1:0:2489:C:C6	2.53	0.44
1:0:323:G:OP2	1:0:343:A:H5'	2.18	0.44
1:0:533:C:H2'	1:0:534:U:O4'	2.18	0.44
2:9:104:A:C4	2:9:105:G:C8	3.06	0.44
1:0:1363:C:H2'	1:0:1364:C:C6	2.53	0.44
1:0:1707:A:C2'	1:0:1708:C:H5'	2.48	0.44
1:0:1947:G:P	1:0:1947:G:H8	2.40	0.44
1:0:2166:G:O2'	1:0:2167:A:H5'	2.17	0.44
1:0:2535:C:C2'	1:0:2536:G:H5'	2.47	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	0.44
1:0:2770:A:H5''	1:0:2867:G:H1	1.81	0.44
1:0:484:G:H2'	1:0:485:G:O4'	2.17	0.44
1:0:570:G:C2'	1:0:571:U:H5''	2.48	0.44
1:0:1135:C:H2'	1:0:1136:G:H8	1.83	0.44
1:0:158:A:H2'	1:0:159:A:C8	2.52	0.44
1:0:1685:A:C2	1:0:1976:U:C2	3.06	0.44
1:0:1710:U:O5'	1:0:1710:U:H6	2.00	0.44
1:0:2064:U:H2'	1:0:2065:A:H8	1.83	0.44
1:0:2070:G:H2'	1:0:2071:G:C8	2.52	0.44
1:0:2090:U:H2'	1:0:2091:C:H6	1.83	0.44
1:0:2182:A:H3'	1:0:2183:C:C6	2.53	0.44
1:0:2321:C:H2'	1:0:2322:U:H5'	1.99	0.44
1:0:2474:G:O5'	1:0:2474:G:H8	2.01	0.44
1:0:2685:A:H5''	1:0:2826:C:H5''	2.00	0.44
1:0:2725:C:H2'	1:0:2726:U:C6	2.53	0.44
1:0:2783:U:H2'	1:0:2784:A:C4'	2.47	0.44
1:0:940:G:C3'	1:0:941:U:C5'	2.79	0.44
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.44
1:0:1654:A:H4'	1:0:2690:A:HO2'	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1724:C:H1'	1:0:1747:G:C4	2.53	0.44
1:0:2327:U:H2'	1:0:2328:G:C8	2.53	0.44
1:0:1680:U:HO2'	1:0:2665:G:H4'	1.82	0.44
1:0:32:C:H2'	1:0:33:C:C6	2.53	0.44
1:0:486:U:C2'	1:0:487:G:H5'	2.48	0.44
1:0:26:G:H1'	1:0:525:A:H61	1.83	0.44
1:0:1000:G:OP1	1:0:1168:G:H4'	2.18	0.43
1:0:1229:C:H2'	1:0:1230:C:C6	2.53	0.43
1:0:1962:C:C2'	1:0:1963:G:H5'	2.47	0.43
1:0:2070:G:H2'	1:0:2071:G:H8	1.83	0.43
1:0:222:G:O2'	1:0:223:C:H5'	2.18	0.43
1:0:2712:G:H3'	1:0:2713:A:H5'	1.99	0.43
1:0:2610:G:H5'	1:0:2866:A:H4'	1.99	0.43
1:0:83:A:H5''	1:0:84:G:OP1	2.18	0.43
1:0:1263:G:O2'	1:0:1264:C:P	2.76	0.43
1:0:1310:C:P	1:0:2689:C:H4'	2.58	0.43
1:0:1485:U:H2'	1:0:1486:A:H8	1.82	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1622:G:H5''	1:0:1624:A:O4'	2.18	0.43
1:0:1801:C:H1'	1:0:2207:G:O2'	2.17	0.43
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	0.43
1:0:2079:A:H2'	1:0:2080:U:C6	2.53	0.43
1:0:2214:G:O2'	1:0:2215:C:H5'	2.18	0.43
1:0:2633:A:OP1	1:0:2635:U:H1'	2.18	0.43
1:0:2695:C:H2'	1:0:2696:A:H8	1.83	0.43
1:0:27:G:HO2'	1:0:28:A:H8	1.65	0.43
1:0:508:G:H22	1:0:516:G:N2	2.16	0.43
1:0:541:C:H2'	1:0:541:C:O2	2.18	0.43
1:0:630:G:H5''	1:0:631:G:OP2	2.18	0.43
1:0:632:A:H3'	1:0:632:A:N3	2.33	0.43
1:0:929:A:C3'	1:0:930:A:C5'	2.95	0.43
1:0:1011:A:N6	1:0:1165:G:H2'	2.33	0.43
1:0:1572:C:H2'	1:0:1573:G:H5''	1.99	0.43
1:0:163:A:H2'	1:0:164:G:C8	2.50	0.43
1:0:1764:A:H62	1:0:1821:A:H1'	1.83	0.43
1:0:1781:C:H2'	1:0:1782:A:C8	2.53	0.43
1:0:1908:C:H2'	1:0:1909:U:C4'	2.22	0.43
1:0:2106:G:H2'	1:0:2107:G:C8	2.53	0.43
1:0:2219:U:O2'	1:0:2220:A:H5'	2.19	0.43
1:0:951:G:H3'	1:0:952:A:H5''	1.99	0.43
1:0:968:C:H41	1:0:970:A:C1'	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1300:A:H2	1:0:1666:G:H4'	1.81	0.43
1:0:1783:G:H1'	1:0:1822:C:P	2.59	0.43
1:0:2324:G:N7	1:0:2351:G:C2	2.86	0.43
1:0:2433:G:O2'	1:0:2434:G:H5'	2.19	0.43
1:0:629:C:C2'	1:0:630:G:H5'	2.48	0.43
2:9:48:A:C5	2:9:49:C:C5	3.06	0.43
1:0:1226:A:C4	1:0:1250:A:N3	2.86	0.43
1:0:1558:C:H2'	1:0:1559:G:C5'	2.49	0.43
1:0:1572:C:C2'	1:0:1573:G:H5''	2.48	0.43
1:0:192:G:O2'	1:0:193:A:OP2	2.33	0.43
1:0:1974:U:H2'	1:0:1975:G:C5'	2.42	0.43
1:0:2252:A:H2'	1:0:2253:A:C8	2.54	0.43
1:0:2319:G:H2'	1:0:2320:G:C8	2.54	0.43
1:0:2335:U:H2'	1:0:2336:G:O4'	2.19	0.43
1:0:2426:G:N2	1:0:2431:C:N4	2.67	0.43
1:0:2488:G:H2'	1:0:2489:C:H6	1.83	0.43
1:0:2863:U:H2'	1:0:2864:C:H6	1.84	0.43
1:0:431:G:H2'	1:0:432:C:C6	2.54	0.43
1:0:698:A:C1'	1:0:700:C:H41	2.31	0.43
1:0:737:C:H2'	1:0:738:G:O4'	2.18	0.43
1:0:784:U:H2'	1:0:785:U:C6	2.54	0.43
2:9:88:C:H2'	2:9:89:G:C8	2.53	0.43
1:0:1155:G:H2'	1:0:1156:U:O4'	2.19	0.43
1:0:1256:C:H2'	1:0:1257:U:C6	2.54	0.43
1:0:1422:C:H2'	1:0:1423:A:C8	2.54	0.43
1:0:1554:G:H2'	1:0:1555:A:C8	2.53	0.43
1:0:1558:C:H2'	1:0:1559:G:O4'	2.19	0.43
1:0:158:A:H2'	1:0:159:A:O4'	2.19	0.43
1:0:1625:A:H2'	1:0:1625:A:N3	2.33	0.43
1:0:2345:A:H2'	1:0:2346:G:H5'	2.01	0.43
1:0:2448:A:H2'	1:0:2449:G:O4'	2.19	0.43
1:0:295:C:N4	1:0:296:A:N6	2.67	0.43
1:0:305:A:H2'	1:0:306:G:C5'	2.48	0.43
1:0:456:C:O2'	1:0:457:C:H5'	2.18	0.43
1:0:714:G:O2'	1:0:715:U:H5'	2.18	0.43
1:0:688:A:N6	1:0:816:U:H3	1.90	0.43
2:9:59:A:H2'	2:9:60:A:C5'	2.48	0.43
1:0:1296:G:H2'	1:0:1298:G:OP2	2.19	0.43
1:0:1699:A:H61	1:0:1723:U:H3	1.65	0.43
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.43
1:0:1981:A:H4'	1:0:2704:U:O2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:203:G:H4'	1:0:234:C:O2'	2.18	0.43
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.43
1:0:2095:G:H2'	1:0:2096:U:H5''	2.01	0.43
1:0:873:U:N3	1:0:2246:A:H5''	2.34	0.43
1:0:2618:A:N1	1:0:2619:G:H1'	2.34	0.43
1:0:2655:C:H2'	1:0:2656:G:O4'	2.19	0.43
1:0:2727:G:O2'	1:0:2728:A:H5''	2.19	0.43
1:0:2876:C:H2'	1:0:2877:A:O4'	2.19	0.43
1:0:41:G:H2'	1:0:42:G:C8	2.53	0.43
1:0:65:C:O2'	1:0:66:U:H5'	2.19	0.43
1:0:746:G:N7	1:0:774:A:C5	2.86	0.43
1:0:1455:C:H2'	1:0:1456:C:C6	2.54	0.43
1:0:2205:C:O2'	1:0:2206:C:H5'	2.17	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.19	0.43
1:0:426:C:H6	1:0:426:C:O5'	2.00	0.43
1:0:580:A:N3	1:0:582:G:N7	2.66	0.43
1:0:1021:A:O5'	1:0:1021:A:H8	2.02	0.43
1:0:1086:C:C3'	1:0:1087:C:H5''	2.48	0.43
1:0:1448:A:H2'	1:0:1449:C:C6	2.54	0.43
1:0:2306:A:H2'	1:0:2307:A:C8	2.54	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.02	0.43
1:0:353:G:H2'	1:0:354:C:H6	1.83	0.43
1:0:952:A:H2'	1:0:953:G:O4'	2.19	0.43
1:0:1020:A:H2'	1:0:1021:A:C8	2.54	0.43
1:0:1091:C:H2'	1:0:1092:U:H6	1.79	0.43
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:1474:A:H2'	1:0:1476:G:OP1	2.19	0.43
1:0:1766:U:H2'	1:0:1767:G:O4'	2.19	0.43
1:0:192:G:O2'	1:0:193:A:C5'	2.67	0.43
1:0:2054:A:H61	1:0:2417:U:H3	1.65	0.43
1:0:2124:C:O2'	1:0:2125:C:H5'	2.18	0.43
1:0:2449:G:H2'	1:0:2450:A:H8	1.83	0.43
1:0:2651:U:H2'	1:0:2652:G:O4'	2.19	0.43
1:0:2783:U:OP1	1:0:2783:U:O4'	2.37	0.43
1:0:81:C:H4'	1:0:307:C:C5'	2.48	0.43
1:0:708:G:H2'	1:0:709:A:H8	1.84	0.43
1:0:758:G:C2'	1:0:759:C:H5'	2.49	0.43
2:9:108:G:H8	2:9:108:G:O5'	2.01	0.43
1:0:1543:G:H2'	1:0:1544:A:C5'	2.49	0.42
1:0:14:A:N6	1:0:15:G:C2	2.87	0.42
1:0:586:G:OP1	1:0:2481:G:H2'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:428:A:H2'	1:0:429:C:C6	2.54	0.42
1:0:475:U:C1'	1:0:801:A:N1	2.82	0.42
1:0:556:A:C2'	1:0:557:U:H5'	2.40	0.42
1:0:789:G:N2	1:0:806:A:H62	2.15	0.42
2:9:72:C:O2'	2:9:73:C:H5'	2.19	0.42
2:9:7:C:H2'	2:9:8:C:C6	2.54	0.42
1:0:1302:C:C6	1:0:1302:C:OP1	2.71	0.42
1:0:781:G:H5'	1:0:1638:G:C4'	2.49	0.42
1:0:1776:A:H4'	1:0:1965:U:O2'	2.18	0.42
1:0:2302:G:N2	1:0:2314:A:H2	2.16	0.42
1:0:2475:C:C2'	1:0:2476:A:H5'	2.48	0.42
1:0:2759:U:H4'	1:0:2760:G:O5'	2.18	0.42
1:0:515:A:H2'	1:0:516:G:H5'	2.01	0.42
1:0:708:G:H2'	1:0:709:A:C8	2.54	0.42
1:0:864:C:O2'	1:0:865:A:H5'	2.19	0.42
1:0:975:C:O5'	1:0:975:C:H6	2.02	0.42
1:0:977:G:H5''	1:0:2251:U:O2	2.19	0.42
2:9:108:G:H2'	2:9:109:G:C8	2.55	0.42
1:0:1168:G:H2'	1:0:1169:C:C6	2.54	0.42
1:0:1258:G:H2'	1:0:1259:A:C8	2.54	0.42
1:0:1302:C:P	1:0:1302:C:H6	2.41	0.42
1:0:1725:C:O2'	1:0:1726:C:H5'	2.20	0.42
1:0:1769:U:H3	1:0:1778:U:H3	1.66	0.42
1:0:1790:G:O2'	1:0:1791:C:H5	2.01	0.42
1:0:1801:C:H1'	1:0:2208:U:H5'	2.02	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.02	0.42
1:0:2205:C:C2'	1:0:2206:C:H5'	2.50	0.42
1:0:2501:U:O2'	1:0:2626:U:H5''	2.19	0.42
1:0:2770:A:H5'	1:0:2867:G:H22	1.84	0.42
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.42
1:0:1028:G:H2'	1:0:1029:C:O4'	2.19	0.42
1:0:1110:G:H2'	1:0:1111:C:C6	2.53	0.42
1:0:1123:G:O2'	1:0:1124:U:H5'	2.20	0.42
1:0:26:G:O3'	1:0:1273:G:H4'	2.19	0.42
1:0:1398:G:O2'	1:0:1399:C:H5'	2.19	0.42
1:0:1552:C:H2'	1:0:1553:G:O4'	2.20	0.42
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.42
1:0:2075:U:H1'	1:0:2204:A:C2	2.54	0.42
1:0:2517:C:O2'	1:0:2518:C:H5'	2.19	0.42
1:0:2788:C:H2'	1:0:2789:U:H6	1.84	0.42
1:0:27:G:O2'	1:0:28:A:O4'	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:421:G:O2'	1:0:422:C:H5'	2.20	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.19	0.42
1:0:63:A:O2'	1:0:64:C:H5'	2.19	0.42
1:0:661:C:O2'	1:0:662:G:H5'	2.20	0.42
1:0:694:G:H2'	1:0:695:G:H8	1.85	0.42
1:0:1135:C:H2'	1:0:1136:G:C8	2.54	0.42
1:0:1455:C:H2'	1:0:1456:C:H6	1.85	0.42
1:0:1920:A:N6	1:0:1923:U:C6	2.87	0.42
1:0:1938:U:O2'	1:0:1939:U:OP1	2.30	0.42
1:0:2229:G:H2'	1:0:2475:C:OP1	2.20	0.42
1:0:2233:C:O2'	1:0:2234:G:H5'	2.19	0.42
1:0:2427:A:OP2	1:0:2478:C:OP2	2.38	0.42
1:0:2662:C:N4	1:0:2707:G:H21	2.16	0.42
1:0:537:C:N1	1:0:2759:U:H2'	2.35	0.42
1:0:825:C:O2'	1:0:826:U:H5'	2.20	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:1001:A:N6	1:0:1200:G:H1'	2.34	0.42
1:0:1308:C:H2'	1:0:1309:G:C8	2.54	0.42
1:0:1310:C:O2'	1:0:1315:A:N1	2.49	0.42
1:0:1566:G:O2'	1:0:1567:A:H5'	2.20	0.42
1:0:1679:U:H2'	1:0:1680:U:C5'	2.20	0.42
1:0:176:A:H3'	1:0:177:U:C5	2.55	0.42
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.42
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:1972:G:O2'	1:0:1973:C:H5'	2.19	0.42
1:0:2677:U:O2'	1:0:2678:C:H5'	2.20	0.42
1:0:2710:C:O2'	1:0:2711:G:H5'	2.20	0.42
1:0:2724:G:O2'	1:0:2725:C:H5'	2.20	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.55	0.42
1:0:698:A:H1'	1:0:700:C:H41	1.85	0.42
1:0:843:G:H5'	1:0:956:A:H1'	2.02	0.42
2:9:104:A:C8	2:9:105:G:C8	3.07	0.42
8:F:6:LEU:CA	8:F:14:THR:CA	2.98	0.42
1:0:1223:G:O2'	1:0:1224:A:OP2	2.35	0.42
1:0:1259:A:H2'	1:0:1260:A:H5'	2.00	0.42
1:0:173:A:N3	1:0:173:A:H2'	2.35	0.42
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42
1:0:186:C:H2'	1:0:187:U:O4'	2.20	0.42
1:0:2059:U:C2'	1:0:2060:A:H5''	2.39	0.42
1:0:2402:U:H5'	1:0:2404:A:N7	2.34	0.42
1:0:2422:C:H2'	1:0:2423:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1937:G:N3	1:0:2530:C:C5'	2.80	0.42
1:0:2630:C:H2'	1:0:2631:C:C6	2.55	0.42
1:0:333:A:HO2'	1:0:350:U:H2'	1.83	0.42
1:0:445:A:C2'	1:0:446:C:H5'	2.49	0.42
1:0:597:U:H2'	1:0:598:U:H6	1.82	0.42
1:0:475:U:C2	1:0:801:A:C6	3.07	0.42
1:0:1619:A:N3	1:0:1619:A:O5'	2.52	0.42
1:0:1653:C:O2	1:0:1751:A:H2	2.03	0.42
1:0:226:C:H4'	1:0:227:G:H8	1.83	0.42
1:0:2321:C:H2'	1:0:2322:U:C5'	2.50	0.42
1:0:573:C:O2'	1:0:574:C:H5'	2.19	0.42
1:0:670:U:O2'	1:0:671:A:H5'	2.20	0.42
1:0:1491:C:H2'	1:0:1492:A:C8	2.53	0.42
1:0:1714:A:H5''	1:0:1715:A:H8	1.85	0.42
1:0:1851:A:N6	1:0:1867:A:H1'	2.31	0.42
1:0:1870:U:O5'	1:0:1870:U:H6	2.02	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.50	0.42
1:0:459:A:C4	1:0:466:A:N7	2.88	0.42
1:0:573:C:H2'	1:0:574:C:O4'	2.20	0.42
1:0:651:C:C3'	1:0:652:C:C5'	2.98	0.42
1:0:90:G:H3'	1:0:91:A:C5'	2.50	0.42
2:9:88:C:H2'	2:9:89:G:H8	1.84	0.42
1:0:1023:U:H1'	1:0:1154:A:N7	2.35	0.42
1:0:1029:C:H2'	1:0:1030:U:H5''	2.02	0.42
1:0:1167:A:H5'	1:0:1168:G:N7	2.34	0.42
1:0:1332:G:O2'	1:0:1333:G:H5'	2.20	0.42
1:0:1545:G:O2'	1:0:1546:C:H5'	2.19	0.42
1:0:167:A:H2'	1:0:168:A:O4'	2.18	0.42
1:0:1791:C:C1'	1:0:1793:A:H5'	2.43	0.42
1:0:1814:G:H2'	1:0:1815:G:H8	1.84	0.42
1:0:2491:C:H2'	1:0:2492:G:H4'	1.98	0.42
1:0:1773:C:H1'	1:0:2588:U:O4'	2.19	0.42
1:0:2627:G:O2'	1:0:2628:C:H5'	2.20	0.42
1:0:777:A:N6	1:0:1766:U:N3	2.68	0.42
1:0:792:U:O2'	1:0:793:G:H5'	2.20	0.42
2:9:42:U:H3'	2:9:43:G:C5'	2.50	0.42
1:0:1025:A:O2'	1:0:1026:U:H5'	2.20	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.50	0.41
1:0:1459:U:H3'	1:0:1459:U:OP1	2.19	0.41
1:0:1725:C:H2'	1:0:1726:C:H6	1.85	0.41
1:0:1921:A:C3'	1:0:1922:U:H5''	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:198:A:O2'	1:0:199:A:OP2	2.36	0.41
32:0:2881:773:H171	32:0:2881:773:H19	1.90	0.41
1:0:393:U:H2'	1:0:394:U:O4'	2.19	0.41
1:0:224:G:H4'	1:0:399:G:C5	2.55	0.41
1:0:495:C:H2'	1:0:496:C:C6	2.55	0.41
1:0:570:G:H2'	1:0:571:U:H5''	2.02	0.41
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.41
1:0:750:C:H2'	1:0:751:G:C8	2.55	0.41
1:0:161:U:H2'	1:0:162:C:C6	2.54	0.41
1:0:1904:G:O2'	1:0:1905:G:H5'	2.19	0.41
1:0:1976:U:H2'	1:0:1976:U:O2	2.19	0.41
1:0:2245:A:C4	1:0:2251:U:O4	2.73	0.41
1:0:2475:C:H2'	1:0:2476:A:C4'	2.50	0.41
1:0:2559:U:C2'	1:0:2560:G:H5'	2.50	0.41
32:0:2881:773:H272	32:0:2881:773:H433	2.02	0.41
1:0:66:U:C2	1:0:67:G:N7	2.89	0.41
1:0:717:G:H1'	1:0:740:A:N6	2.35	0.41
1:0:58:C:H1'	1:0:72:A:C8	2.55	0.41
1:0:750:C:H2'	1:0:751:G:H8	1.85	0.41
1:0:953:G:H2'	1:0:954:U:H6	1.85	0.41
1:0:1003:C:O2'	1:0:1004:A:H5'	2.20	0.41
1:0:1487:C:H2'	1:0:1488:G:C8	2.54	0.41
1:0:1581:C:N4	1:0:1583:A:H1'	2.36	0.41
1:0:1727:C:H4'	1:0:2833:C:O2	2.20	0.41
1:0:1797:C:H2'	1:0:1798:G:O4'	2.20	0.41
1:0:1960:A:H2'	1:0:1961:A:C8	2.55	0.41
1:0:1991:C:H2'	1:0:1992:G:C8	2.51	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2630:C:H2'	1:0:2631:C:H6	1.85	0.41
1:0:2700:U:H2'	1:0:2701:A:H8	1.85	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:430:C:H2'	1:0:431:G:O4'	2.20	0.41
1:0:1009:C:O5'	1:0:1009:C:H6	2.02	0.41
1:0:1699:A:C5	1:0:1748:U:H1'	2.55	0.41
1:0:2039:G:N2	27:Z:5:PRO:CA	2.83	0.41
1:0:2362:G:C2'	1:0:2363:G:O5'	2.69	0.41
1:0:646:C:HO2'	1:0:650:U:H5''	1.84	0.41
1:0:666:U:H2'	1:0:668:A:P	2.60	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.55	0.41
1:0:128:C:H2'	1:0:129:A:C5'	2.50	0.41
1:0:1612:U:H2'	1:0:1613:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1721:G:H2'	1:0:1722:G:O4'	2.21	0.41
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.41
1:0:2824:C:C2'	1:0:2825:A:OP2	2.68	0.41
1:0:365:U:H2'	1:0:366:U:H6	1.85	0.41
1:0:612:G:C4'	1:0:613:A:H4'	2.51	0.41
2:9:63:A:O2'	2:9:64:C:H5'	2.19	0.41
1:0:1016:C:H2'	1:0:1017:C:C6	2.56	0.41
1:0:1471:G:H1	1:0:2682:C:N4	2.10	0.41
1:0:1783:G:C6	1:0:1820:G:H1'	2.56	0.41
1:0:1989:C:O5'	1:0:1989:C:H6	2.04	0.41
1:0:583:C:C4	1:0:2016:A:H4'	2.56	0.41
1:0:2162:C:H2'	1:0:2163:U:H6	1.85	0.41
1:0:221:A:H2'	1:0:222:G:C5'	2.50	0.41
1:0:2447:G:C8	1:0:2455:A:N6	2.81	0.41
1:0:2569:A:H2'	1:0:2570:C:C6	2.54	0.41
1:0:2778:U:O2'	1:0:2779:C:H5'	2.21	0.41
1:0:357:A:H2'	1:0:357:A:N3	2.34	0.41
1:0:480:G:O5'	1:0:480:G:H8	2.04	0.41
1:0:541:C:HO2'	1:0:542:A:P	2.44	0.41
1:0:688:A:O2'	1:0:689:A:H5'	2.21	0.41
1:0:929:A:C2	1:0:930:A:H1'	2.56	0.41
2:9:100:G:C2'	2:9:101:A:H5'	2.51	0.41
2:9:28:A:N3	2:9:28:A:H2'	2.35	0.41
2:9:8:C:OP1	2:9:63:A:H5'	2.21	0.41
1:0:1034:U:H2'	1:0:1035:G:O4'	2.20	0.41
1:0:1572:C:H2'	1:0:1573:G:H5'	2.03	0.41
1:0:1664:G:OP2	1:0:1664:G:H3'	2.20	0.41
1:0:1756:C:H2'	1:0:1757:C:H6	1.85	0.41
1:0:2006:G:H2'	1:0:2007:G:H8	1.86	0.41
1:0:2443:C:H2'	1:0:2444:C:C6	2.56	0.41
1:0:2636:A:N6	1:0:2643:G:H21	2.04	0.41
1:0:35:G:O4'	1:0:466:A:C1'	2.69	0.41
1:0:492:G:H2'	1:0:517:A:C2	2.56	0.41
2:9:75:A:N6	2:9:106:U:C4	2.88	0.41
2:9:6:C:C4	2:9:7:C:N4	2.88	0.41
1:0:1328:C:O2'	1:0:1329:U:H5'	2.21	0.41
1:0:1556:A:H2'	1:0:1557:G:C8	2.54	0.41
1:0:1665:C:H2'	1:0:1666:G:O4'	2.21	0.41
1:0:1751:A:H2'	1:0:1752:U:O4'	2.21	0.41
1:0:16:G:O2'	1:0:17:G:H5'	2.21	0.41
1:0:1883:A:C2	1:0:1953:A:N6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2024:U:H6	1:0:2024:U:O5'	2.04	0.41
1:0:2204:A:O2'	1:0:2205:C:P	2.79	0.41
1:0:2279:G:H2'	1:0:2280:A:C8	2.48	0.41
1:0:2058:U:H5'	1:0:2576:G:H1'	2.03	0.41
1:0:2574:G:N2	1:0:2577:A:OP2	2.54	0.41
1:0:42:G:H2'	1:0:43:A:O4'	2.20	0.41
1:0:4:C:O2'	1:0:5:A:H5'	2.20	0.41
1:0:843:G:H3'	1:0:843:G:OP1	2.20	0.41
1:0:1486:A:H2'	1:0:1487:C:C6	2.55	0.41
1:0:1661:C:H2'	1:0:1662:G:H8	1.86	0.41
1:0:1714:A:H5'	1:0:1715:A:O5'	2.21	0.41
1:0:1903:C:H2'	1:0:1904:G:C8	2.55	0.41
1:0:1923:U:H4'	1:0:1948:C:N4	2.36	0.41
1:0:2249:U:C2'	1:0:2250:G:H5'	2.51	0.41
1:0:2302:G:H2'	1:0:2303:C:H5'	2.02	0.41
1:0:2728:A:C2	1:0:2736:U:H1'	2.55	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
1:0:448:C:H2'	1:0:449:C:H5'	2.02	0.41
1:0:639:G:H2'	1:0:640:C:H6	1.82	0.41
1:0:955:G:H5'	1:0:956:A:C5'	2.50	0.41
1:0:996:C:H2'	1:0:997:C:C6	2.56	0.41
2:9:103:A:N7	2:9:104:A:N7	2.69	0.41
1:0:1234:C:O2'	1:0:1235:C:H5'	2.20	0.41
1:0:1440:G:C3'	1:0:1441:A:C5'	2.99	0.41
1:0:1459:U:P	1:0:1459:U:H6	2.44	0.41
1:0:1471:G:O2'	1:0:1472:C:H5'	2.21	0.41
1:0:218:A:O2'	1:0:219:G:C4'	2.64	0.41
1:0:2227:C:C2'	1:0:2228:U:H5'	2.51	0.41
1:0:2409:A:O2'	1:0:2410:U:H5'	2.21	0.41
1:0:2455:A:C2'	1:0:2456:U:H5'	2.50	0.41
1:0:1990:U:H4'	1:0:2799:C:H4'	2.02	0.41
1:0:353:G:O2'	1:0:354:C:H5'	2.21	0.41
1:0:629:C:O2'	1:0:630:G:H5'	2.21	0.41
1:0:67:G:C6	1:0:72:A:C2	3.08	0.41
1:0:744:C:N4	1:0:745:C:H41	2.19	0.41
1:0:754:G:H22	1:0:770:U:H1'	1.84	0.41
1:0:80:A:O2'	1:0:81:C:H5'	2.21	0.41
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.41
2:9:23:G:H2'	2:9:24:U:O4'	2.21	0.41
1:0:1625:A:C2'	1:0:1625:A:N3	2.84	0.41
1:0:2181:A:H2'	1:0:2182:A:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2313:G:H2'	1:0:2314:A:H5'	2.03	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.04	0.41
1:0:2569:A:H2'	1:0:2570:C:O4'	2.21	0.41
1:0:2622:G:O2'	1:0:2623:A:H5'	2.20	0.41
1:0:1645:U:O2	1:0:2677:U:H4'	2.21	0.41
1:0:689:A:C2'	1:0:690:A:H5'	2.51	0.41
1:0:727:U:C2'	1:0:728:G:H5''	2.46	0.41
1:0:184:A:H4'	1:0:812:G:H4'	2.03	0.41
1:0:2559:U:H5''	4:B:130:GLY:CA	2.51	0.41
1:0:1714:A:H3'	1:0:1715:A:N7	2.36	0.40
1:0:1921:A:C2'	1:0:1922:U:H5''	2.48	0.40
1:0:2813:G:O2'	1:0:2814:G:H5'	2.21	0.40
1:0:2869:U:H6	1:0:2869:U:O5'	2.05	0.40
1:0:699:G:N2	1:0:801:A:C2	2.86	0.40
1:0:867:G:H2'	1:0:868:U:C6	2.56	0.40
1:0:121:G:O3'	1:0:1389:C:H4'	2.21	0.40
1:0:1569:A:C6	1:0:1571:G:H1'	2.56	0.40
1:0:1576:G:H2'	1:0:1577:G:O4'	2.22	0.40
1:0:1789:U:HO2'	1:0:1793:A:H1'	1.84	0.40
1:0:1791:C:H1'	1:0:1793:A:O4'	2.21	0.40
1:0:2204:A:H4'	1:0:2205:C:O4'	2.21	0.40
1:0:2394:G:H2'	1:0:2395:C:H6	1.84	0.40
1:0:2409:A:H2'	1:0:2410:U:H5'	2.02	0.40
1:0:2569:A:H2'	1:0:2570:C:H6	1.86	0.40
1:0:2841:U:O2'	1:0:2842:C:C5'	2.69	0.40
1:0:509:U:C2'	1:0:510:G:H5'	2.50	0.40
1:0:805:G:C6	1:0:2419:C:H1'	2.55	0.40
1:0:829:C:O2'	1:0:830:C:H5'	2.21	0.40
1:0:1073:G:H3'	1:0:1074:G:C5'	2.51	0.40
1:0:1221:C:H2'	1:0:1222:G:C8	2.57	0.40
1:0:122:G:C2'	1:0:123:A:H5''	2.52	0.40
1:0:1383:C:O2'	1:0:1384:G:H5'	2.21	0.40
1:0:1528:C:C3'	1:0:1529:C:H5''	2.51	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	0.40
1:0:2542:U:H2'	1:0:2544:A:OP2	2.22	0.40
1:0:451:A:H2'	1:0:452:G:H8	1.83	0.40
1:0:340:G:C1'	1:0:488:A:H1'	2.51	0.40
1:0:68:C:C2	1:0:72:A:N3	2.90	0.40
1:0:73:A:H4'	1:0:74:G:C1'	2.51	0.40
1:0:861:G:N2	1:0:943:U:O2'	2.54	0.40
1:0:1473:U:H4'	1:0:1474:A:C4	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1519:G:O2'	1:0:1520:G:H5'	2.21	0.40
1:0:1791:C:C2'	1:0:1792:C:H5''	2.39	0.40
1:0:201:G:C2	1:0:202:A:C4	3.10	0.40
1:0:2047:C:H42	1:0:2425:G:H1	1.70	0.40
1:0:1981:A:O3'	1:0:2704:U:H4'	2.22	0.40
1:0:317:U:C3'	1:0:318:G:H5''	2.51	0.40
1:0:200:A:N6	1:0:387:A:O2'	2.54	0.40
1:0:398:C:O2'	1:0:401:G:N2	2.54	0.40
1:0:616:U:H3'	1:0:617:U:H5''	2.03	0.40
1:0:68:C:O2	1:0:68:C:H2'	2.21	0.40
1:0:690:A:H4'	1:0:2053:G:O2'	2.22	0.40
1:0:831:G:H5'	1:0:852:U:OP1	2.22	0.40
1:0:931:G:H5'	2:9:83:C:H1'	2.03	0.40
1:0:1148:G:H2'	1:0:1149:G:O4'	2.22	0.40
1:0:1190:C:H2'	1:0:1191:G:C8	2.57	0.40
1:0:1358:C:H2'	1:0:1359:G:H5'	2.03	0.40
1:0:1403:U:O2	1:0:1408:A:N6	2.54	0.40
1:0:1323:G:C1'	1:0:1627:C:H5''	2.52	0.40
1:0:2138:U:H2'	1:0:2139:G:H5'	2.04	0.40
1:0:215:G:H2'	1:0:216:U:C6	2.57	0.40
1:0:2240:C:C2'	1:0:2241:U:C5'	2.97	0.40
1:0:2494:C:H2'	1:0:2495:G:C8	2.56	0.40
1:0:2570:C:H2'	1:0:2571:G:C8	2.57	0.40
1:0:2857:C:H2'	1:0:2858:A:O5'	2.21	0.40
1:0:28:A:O3'	1:0:460:U:O4	2.40	0.40
1:0:501:G:H2'	1:0:502:A:H8	1.87	0.40
1:0:503:G:H2'	1:0:504:G:C8	2.56	0.40
1:0:665:A:H3'	1:0:666:U:C5'	2.51	0.40
1:0:771:C:O2'	1:0:772:G:H5'	2.21	0.40
2:9:12:C:H3'	2:9:13:C:H6	1.85	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [\(i\)](#)

### 5.3.1 Protein backbone [\(i\)](#)

There are no protein backbone outliers to report in this entry.

### 5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	482 (17%)	41 (1%)
2	9	117/124 (94%)	23 (19%)	1 (0%)
All	All	2874/3004 (95%)	505 (17%)	42 (1%)

All (505) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	67	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	76	C
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	105	G
1	0	110	U
1	0	116	A
1	0	118	U
1	0	123	A
1	0	129	A
1	0	135	U
1	0	149	A
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	201	G
1	0	205	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	305	A
1	0	318	G
1	0	322	A
1	0	333	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	341	A
1	0	343	A
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	408	U
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A
1	0	456	C
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	469	G
1	0	484	G
1	0	486	U
1	0	490	A
1	0	491	A
1	0	492	G
1	0	514	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	554	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	582	G
1	0	583	C
1	0	584	A
1	0	587	A
1	0	588	G
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	655	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G
1	0	740	A
1	0	742	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	743	A
1	0	760	U
1	0	765	C
1	0	766	A
1	0	776	G
1	0	778	G
1	0	789	G
1	0	790	A
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	801	A
1	0	804	C
1	0	806	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G
1	0	844	G
1	0	859	U
1	0	873	U
1	0	874	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	943	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	984	A
1	0	985	G
1	0	994	A
1	0	996	C
1	0	1002	C
1	0	1005	U
1	0	1006	C
1	0	1019	U
1	0	1022	A
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1082	G
1	0	1083	C
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1130	U
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1155	G
1	0	1166	A
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1183	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1185	C
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1225	G
1	0	1234	C
1	0	1253	C
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1284	G
1	0	1285	A
1	0	1286	U
1	0	1288	A
1	0	1289	A
1	0	1302	C
1	0	1314	A
1	0	1316	G
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1339	U
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1354	A
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1474	A
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1544	A
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1631	C
1	0	1635	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1664	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1710	U
1	0	1712	G
1	0	1713	G
1	0	1715	A
1	0	1717	A
1	0	1718	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1772	C
1	0	1773	C
1	0	1776	A
1	0	1778	U
1	0	1791	C
1	0	1792	C
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1811	A
1	0	1813	A
1	0	1821	A
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1909	U
1	0	1920	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1948	C
1	0	1949	A
1	0	1950	C
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2035	G
1	0	2038	C
1	0	2043	A
1	0	2044	G
1	0	2045	A
1	0	2046	C
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2238	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2265	A
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2313	G
1	0	2314	A
1	0	2315	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2369	U
1	0	2378	G
1	0	2385	U
1	0	2396	C
1	0	2402	U
1	0	2403	C
1	0	2405	A
1	0	2406	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2414	A
1	0	2427	A
1	0	2428	U
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2457	A
1	0	2470	U
1	0	2476	A
1	0	2477	C
1	0	2482	A
1	0	2483	U
1	0	2492	G
1	0	2499	C
1	0	2504	G
1	0	2508	G
1	0	2522	G
1	0	2533	U
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2594	U
1	0	2600	A
1	0	2608	A
1	0	2609	G
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2760	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G
1	0	2783	U
1	0	2785	A
1	0	2793	G
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2810	A
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2855	C
1	0	2867	G
1	0	2868	G
2	9	7	C
2	9	14	C
2	9	15	A
2	9	17	A
2	9	18	G
2	9	27	A
2	9	28	A
2	9	47	A
2	9	48	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	9	59	A
2	9	60	A
2	9	61	A
2	9	63	A
2	9	68	A
2	9	69	G
2	9	71	G
2	9	93	G
2	9	98	C
2	9	101	A
2	9	102	A
2	9	111	C
2	9	112	A
2	9	115	G

All (42) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	69	G
1	0	71	A
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A
1	0	541	C
1	0	583	C
1	0	765	C
1	0	805	G
1	0	843	G
1	0	1141	U
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1313	U
1	0	1354	A
1	0	1410	U
1	0	1495	G
1	0	1634	A
1	0	1651	U

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Mol	Chain	Res	Type
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	1975	G
1	0	2015	G
1	0	2018	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2245	A
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2633	A
1	0	2759	U
1	0	2824	C
2	9	58	G

#### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

#### 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

#### 5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
32	773	0	2881	-	57,59,59	1.77	12 (21%)	75,88,88	1.34	9 (12%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	773	0	2881	-	-	0/67/98/98	0/4/5/5

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	2881	773	C5-C4	-5.28	1.44	1.52
32	0	2881	773	C35-C34	-5.23	1.24	1.36
32	0	2881	773	C37-C38	-5.01	1.33	1.41
32	0	2881	773	C22-C21	-3.01	1.47	1.52
32	0	2881	773	C6-C5	-2.61	1.47	1.53
32	0	2881	773	O9-C21	-2.33	1.17	1.21
32	0	2881	773	C30-C29	-2.25	1.24	1.31
32	0	2881	773	C10-N1	-2.03	1.43	1.48
32	0	2881	773	C24-N2	2.11	1.36	1.33
32	0	2881	773	C19-C21	2.20	1.59	1.52
32	0	2881	773	O8-C16	2.89	1.48	1.45
32	0	2881	773	C2-C4	3.90	1.58	1.53

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	0	2881	773	O7-C24-N2	-4.46	105.73	109.73
32	0	2881	773	C41-C22-C21	-2.30	104.05	108.05
32	0	2881	773	C19-C21-C22	-2.02	115.50	119.12
32	0	2881	773	C18-C16-C7	2.25	113.00	110.22
32	0	2881	773	C6-C5-C7	2.47	116.34	112.88
32	0	2881	773	C43-C42-C25	2.51	119.58	113.15
32	0	2881	773	C42-C25-C26	2.73	119.11	115.23
32	0	2881	773	O9-C21-C22	2.97	124.85	120.56
32	0	2881	773	O6-C24-N2	4.20	134.05	129.19

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	0	2881	773	9	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

### 6.2 Non-standard residues in protein, DNA, RNA chains

EDS was not executed - this section is therefore empty.

### 6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

### 6.4 Ligands

EDS was not executed - this section is therefore empty.

### 6.5 Other polymers

EDS was not executed - this section is therefore empty.